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ABSTRACT

This publication contains 200 bibliographic annotated entries representative of the available literature most relevant to the future of American education. The content scope covers futures methodology, general societal trends and futures descriptions, general educational trends and futures descriptions, educational policy proposals, and publications for social and educational planners. A related document is ED 047 406. (RA)

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ESSENTIAL READING FOR THE FUTURE OF EDUCATION

A Selected and Critically Annotated Bibliography

Compiled

by

Michael Marien

(Updated and Revised Edition)

February 1971

Educational Policy Research Center
Syracuse University Research Corporation
1206 Harrison Street
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ESSENTIAL READING FOR THE FUTURE OF EDUCATION

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I. Introduction

This selected bibliography represents a very tentative and subjective judgment of the literature most relevant to the future of American education It covers an immense area, including futures methodology, trends, and possible directions (or alternative futures) that are being increasingly prescribed from all quarters. Or, to define the scope in four very basic questions: a) How and why do we look at the future? b) What is happening? c) What might happen? d) What ought to happen?

Such a scope may seem incredibly broad to one who is accustomed to a specialist's niche. But as our society becomes more complex, and linkages more diverse, it becomes conceptually necessary to develop holistic viewpoints. This is especially so for the rapidly emerging field of educational policy research, and this bibliography attempts to sketch broadly the parameters of the field, not only for the specialists and generalists within the field, but for the diversity of "outsiders" who, hopefully, will be aided in policy-making as well as research and teaching.

The "cream" presented here is part of a larger effort (see item 197) to upgrade previous work,[1] with the following rationale: Simple listing of titles can be helpful, and doubly so if well-categorized. A line or two of explanatory annotation can perhaps double the value, and a paragraph of intelligent annotation can double the value once more. The value is perhaps doubled again if the annotation is critical, pointing out virtues and faults of the document at hand.

The exploration of the literature has thus proceeded with the ideal of critical annotation in mind. But the product falls considerably short of this ideal: many of the critical comments are superficial, and it has often been the case that there has been no capacity to make any comment. Even the "objective" annotations vary in length and quality, and it has occasionally been necessary to paraphrase reviews or cite publisher's advertisements as a temporary annotation.

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[1] MARIEN, Michael. Shaping the Future of American Education: A Preliminary Annotated Bibliography of Educational and General Futures. Syracuse: EPRC, May 1969, 101 pp. Supplement, August 1969, 34 pp. (539 items total); Essential Reading for the Future of Education. Syracuse: EPRC, September 1970. 56 pp. (146 items)

It is felt that an information system such as this is particularly suited to a broad and rapidly emerging area of critical concern, where knowledge must be diffused widely and quickly. It is assumed that every reader of this bibliography is inundated by the information explosion. The necessary response to this system overload is to establish priorities and to develop holistic frameworks so that more information can be meaningfully accommodated. This selected bibliography of 200 items attempts to suggest priorities and to point out the holistic literature that may facilitate a broader understanding. The irony, of course, is that this bibliography contributes to information overload, not only as another document to read, but through its urging of still more reading.

For the reader who is new to this entire realm, several general books are especially recommended: Michael (item 1), Brzezinski (21), McHale (24), Ferkiss (36), Toffler (37), Bennis and Slater (38), Drucker (39), Mead (78), and Coombs (81). Although there is an overlap, each of these syntheses provides a distinctive approach to explaining what is happening in our society. There is an important similarity to the images of The Unprepared Society, Technetronic Society, Planetary Society, Super-Industrial Society, The Temporary Society, The Age of Discontinuity, Pre-Figurative Culture, and The World Educational Crisis proposed respectively by each of the authors. Indeed, nearly 40% of this bibliography is devoted to works that do not deal solely (if at all) with education, for it is increasingly necessary to understand the societal context in order to understand the future of education.

Cautions

Although a selected bibliography may be theoretically appealing, it is essential that the limitations to this effort be kept in mind. This is strictly a one-man project, with all the advantages and drawbacks that such an effort entails. The cautions should therefore be made explicit:

1. Ignorance. Although there is an awareness of about 1400 documents that are considered to be relevant, the universe has by no means been covered, especially with respect to journal articles.

2. Inconsistency. The literature has been considered in varying degrees, from a thorough reading, to a quick skimming, to a glance at the table of contents or the book jacket, to simply a knowledge that an item exists. Moreover, a document read a year ago may not be judged in the same light as one read at the present. Consequently, the full bibliography may contain many items that, if fully considered, would merit promotion to a "selected" status, perhaps replacing some of the literature that is recommended.

3. Bias. Any selection exhibits a bias, whether or not one wishes to admit it. There is, of course, a cultural bias, with most items written by U.S. authors for U.S. audiences. In general, a preference has been shown here for competent but imaginative scholarship, as opposed to romantic polemics on the one hand, and, on the other hand, timid but "respectable" works that are divorced from what is considered as emerging realities. If this particular selection is found to be slanted, it might stimulate counter-bibliographies, especially for non-U.S. audiences.

4. Obsolescence. In that about 60% of this selected bibliography involves items published in 1969-1971 (with more than 90% published between 1967 and 1971), there can be little doubt that there is a considerable amount of "essential reading" that is presently in galley proofs or typewriter carriages. If subsequent bibliographies are issued, say on an annual basis, one can anticipate that one-fourth to one-third of the items will be new publications. If such a selected bibliography can be taken as a rough approximation of the field of educational futures research, then it must be concluded that the knowledge obsolescence rate in this field is considerably higher than elsewhere. (In engineering, for example, it is commonly stated that 50% of the relevant knowledge becomes obsolete over the period of a decade.)

Despite these cautions, a start must be made. As pointed out by Drucker (item 40) and Platt (item 148), we are entering an era in which priorities in knowledge must be established, not only because of the ever-growing quantity, but even more so because of pervasive social problems requiring knowledge for their solution. It is hoped that this selected bibliography will stimulate the reader's thinking about policy priorities, as well as priorities in research and teaching. Indeed, one might confront the painful question as to whether this literature (or any such approximation of "essential reading") enters the curriculum of schools and colleges in any manner. If not, in an age when many students are flailing about for "relevance," can there be little wonder that many resort to drugs, disruption, and dropping out?

The Classification of Items

The citations are not arranged alphabetically, for such classification is considered to be arbitrary. Its only benefit--that of convenience--is easily provided for by the author index supplied here. Rather, there has been an attempt at "heuristic juxtaposition," arranging items so that there is some logical flow or clashing contrast, so that a group of, say, five or six documents may be compared together. Although this has been attempted, there are many cases where there is little or no relationship, and the user is therefore cautioned against reading too much meaning into the arrangement, which in some cases is arbitrary. In general, the attempt has been to lead from the broad to the narrow, and the more valuable to the less valuable.

The categories have attempted to distinguish between methodology, trends, descriptive futures, and prescriptive futures or policy proposals. Although the literature has been placed in these categories, there is nevertheless a considerable overlap, and it is not uncommon to find a book discussing methodology, supplying evidence of trends, extrapolating into the future or suggesting several possible futures, and making a judgment as to what the future ought to be like (e.g., Johnson, item 106). Indeed, many ostensibly descriptive futures are to some degree an "objective" mask for the future that is preferred by the author. Items have been classified under the category that they most strongly suggest, although a more thorough analysis could warrant a re-classification, e.g., from prescriptive to descriptive. The literature of trends and descriptive futures has been found to be similar enough to warrant a joint category, as distinguished from two separate categories in the May 1969 bibliography.

II. Selected Bibliography

A. METHODOLOGY

1. Background to Contemporary Futures Studies

1. MICHAEL, Donald N. The Unprepared Society: Planning for a Precarious Future. Foreword by Ward Madden. The John Dewey Society Lecture--No. Ten. N.Y.: Basic Books, 1968. 132 pp. $4.95.

   An excellent introduction to explaining the need for looking at the future, who does it, how it is done, and problems encountered. The final chapter, "Some Challenges for Educators," discusses implications for education, e.g.: "We must educate so people can cope efficiently, imaginatively, and perceptively with information overload." (p. 108)

2. DROR, Yehezkel. Public Policy-Making Re-examined. San Francisco: Chandler, 1968. 370 pp.

   An authoritative work discussing contemporary policy-making and proposing an optimal model characterized by rational and extrarational components. See Chapter 17, "Changes Needed in Knowledge" (and especially notes on policy science, pp. 240-245); also discussion in Chapter 19 on organizations for policy analysis. Excellent biographic essay, pp. 327-356.

3. MARTY, Martin E. The Search for a Usable Future. N.Y.: Harper & Row, 1969. 157 pp.

   An eminent theologian reviews contemporary thinking among futurists and theologians, and argues "for an approach which retains the ambiguity of history and yet which motivates action and prevents paralysis" (p. 73)--a future with hope. "The sense of a useless past . . . is not to take a nihilist's view of historical life but rather to point to the creative possibilities of the moment." (p. 12) The volume goes on to point out how various approaches to the future of man and society affect the actions of people.

4. ARMYTAGE, W.H.G. Yesterday's Tomorrows: A Historical Survey of Future Societies. Toronto: University of Toronto Press, 1968. 288 pp.

   "The rise of . . . 'conflict models' of prediction out of what might otherwise be regarded as a welter of futuristic fantasies is the theme of this book. It tries to show how, out of the long process of preparatory daydreams, imagined encounters, wish-fulfillments, and compensatory projections, a constructive debate about tomorrow is emerging, providing us with operational models about what tomorrow could, or should be. This debate (dialogue is perhaps the more fashionable term) is increasingly becoming part of the modern self whereby man is enabled to maintain his equilibrium." (p. x) An excellent survey not only of Utopian literature, but of modern scientific efforts. Although no attempt is made at an orderly bibliographic presentation, about 500 titles are mentioned in the notes (pp. 222-265), and several hundred additional titles are sprinkled throughout the text. (For a chronological listing of about 550 Utopian writings, see Miriam Strauss Weiss, A Lively Corpse. Cranbury, N.J.: A.S. Barnes, 1969.)

7

5. CUBBERLY, Ellwood P. Changing Conceptions of Education. Boston: Houghton-Mifflin, 1909. 70 pp.

This item is included to remind readers that attempts to adapt education to a changing society are not new.

After reviewing Changes in the Nature of our Life and Changes in the Conception of the School, Cubberly contends that "We are standing on the threshold of a new era in educational progress." (p. 52)

"To convey to the next generation the knowledge and accumulated experience of the past is not (the school's) only function. It must equally prepare the future citizen for the tomorrow of our complex life . . . There are many reasons for believing that this change is taking place rapidly at present . . ." (p. 54) Needless to say, the glowing optimism has proved to be unwarranted.

6. KILPATRICK, William Heard. Education for a Changing Civilization. Three Lectures Delivered on the Luther Laflin Kellogg Foundation at Rutgers University, 1926. N.Y.: Macmillan, 1936. 143 pp.

We must often remember that what appears to be new may not really be so. Even though conceived nearly half a century ago, these lectures by an eminent "Progressive" are in many respects not unlike the prescriptions advocated by today's reformers. (It is not that present writers have been influenced by Kilpatrick, but rather that an anticipation of change leads to similar educational prescriptions.)

Observing that "Our young people face too clearly an unknown future" (p. 41), and "Our youth no longer accept authoritarian morals" (p. 50), it is recommended that "We must free our children to think for themselves." Older education is seen as pretending that the future will be like the present, but "no longer can one generation bind the next to its solutions. On the other hand, our young people must learn such general and flexible techniques as promise best to serve them in that unknown future." (p. 85)

But rhetoric and reality become confused when it is asserted (similar to Cubberly) that "Our schools are already changing" (p. 89), based on scattered impressions of "less group precision and straight line marching," more individual movement, school as a place where "actual experiencing goes on" and the fact that "the better schools now favor student participation in school affairs." (p. 107) Does this all sound familiar?

2. General Futures

7. DE JOUVENEL, Bertrand. The Art of Conjecture. Translated from the French by Nikita Lary. N.Y.: Basic Books, 1967. 307 pp. (First published by Editions du Rocher in 1964.)

An authoritative discussion of "the customs of the mind in its commerce with the future," covering predictions, ways of conceiving the future, and quantitative predictions. The last chapter advocates "a surmising forum" as "a necessary response to a growing demand for forecasts."

8. JANTSCH, Erich. Technological Forecasting in Perspective. Paris: Organisation for Economic Co-Operation and Development (OECD), 1967. 401 pp.

(cont'd)

Extensive discussion of a framework for technological forecasting and related techniques. Of even greater importance are the two annexes. Annex A lists "Technological Forecasting Activities in Non-Industrial Environments," including 17 forecasting institutes and consulting firms (13 American), military and national planning in various nations, and forerunner activities in look-out institutions (9 of 13 listed are American). Annex B contains an annotated bibliography of about 420 items divided into 14 categories. Despite comprehensiveness in the area of scientific and technological forecasting, there is no mention of writings on educational futures or of organizations listed having such a concern. (For a more current listing of American researchers, see McHale, item 200.)

9. DE BONO, Edward. New Think: The Use of Lateral Thinking in the Generation of New Ideas. N.Y.: Basic Books, 1968. 156 pp. $5.95.

This slim and simply written volume is easily as important as any of the ponderous tomes on rational methodology, which de Bono characterizes as "vertical thinking" or digging the same hole deeper. "Lateral thinking is based on biological information processing principles which differ from the physical information processing principles of mathematics, logic, and computers." (p. 1-2) It is not a magic formula, but an attitude and habit of mind. It is not a substitute for vertical thinking, but a complementary process. It is not simply creative thinking, which often requires a talent for expression, for it is open to everyone interested in new ideas.

The principles of lateral thinking involve the recognition of dominating ideas, the deliberate search for alternative ways of looking at things (which is not considered to be natural), relaxing the rigid control of vertical thinking, and the use of chance. Many examples are given from the hard sciences and from stage magic, which "takes advantage of people who use high probability or vertical thinking." Although no examples are given as to lateral thinking about society, education, or the future, this book is nevertheless quite appropriate to such concerns. (Also see Edward de Bono, "Zigzag Thinking," The Futurist, IV:1, February 1970, pp. 29-31.)

10. WEAVER, W. Timothy. The Delphi Method. Syracuse: Educational Policy Research Center. Working Draft, June 1970. 160 pp. mimeo.

A three-part report with an extensive analysis of the experimental research that has proceeded and accompanied the development of the Delphi method, and its use as a device for technological forecasting and educational forecasting. Many reservations are made, and it is concluded that "Although Delphi was originally intended as a forecasting tool, its more promising educational application seems to be in the following areas: (a) a method for studying the process of thinking about the future, (b) a pedagogical tool which forces people to think about the future, and (c) a planning tool which may aid in probing priorities held by members and constituencies of an organization."

11. ROCHBERG, Richard, Theodore J. GORDON, and Olaf HELMER. The Use of Cross-Impact Matrices for Forecasting and Planning. Middletown, Conn.: Institute for the Future, IFF Report R-10, April 1970. 63 pp.

(cont'd)

"A cross-impact matrix is an array consisting of a list of potential future developments and two kinds of data concerning these developments: first, the estimated probabilities that these developments will occur within some specified period in the future, and, second, estimates of the effect that the occurrence of any one of these events could be expected to have on the likelihood of occurrence of each of the others.

"In general, the data for such a matrix are obtained by collating expert opinions derived through the use of methods such as the Delphi technique. Such a matrix is analyzed in order to revise the estimated possibilities of occurrence of each development in light of the expected cross impacts of other events on the list, (and to) discover how a change in the probability of occurrence of one or more events (by virtue of a technological breakthrough, a social change, a policy decision) might be expected to change the probabilities of occurrence of other events on the list." (p. 1)

The possible benefits of such an approach are the prompting of meaningful questions, serving pedagogical purposes, comparing the plausibility of scenarios, providing a predictive device in areas in which exact causal relationships are extremely difficult to discern, and providing a method of simulating certain policy actions.

This technical report of ongoing methodological development will probably be of interest only to specialists in forecasting. (Also see items 44 and 45 concerning IFF applications of the Delphi technique.)

12. BAIER, Kurt and Nicholas RESCHER (eds.). Values and the Future: The Impact of Technological Change on American Values. N.Y.: The Free Press, 1969. 527 pp. Bib., pp. 472-512.

17 essays aimed "toward the discovery of ways of guiding social change in directions which are at the least not incompatible with the realization of our deepest values, and perhaps even helpful to it." (p. v) Some groundwork is laid for a new profession of "value impact forecasters," especially via methodological pieces by Rescher, Gordon, and Helmer. The other essays are largely focused on economics, and the editors readily confess the weakness of excluding views by anthropologists, sociologists, and psychologists. There are two bibliographies: the first lists 300 uncategorized items on technological progress and future-oriented studies; the second offers about 500 categorized items on theory of value.

13. U.S. Congress. House Committee on Science and Astronautics. Technology: Processes of Assessment and Choice. Report of the National Academy of Sciences. Washington: USGPO, July 1969. 163 pp. 75 cents.

"Technology Assessment" describes "what occurs when the likely consequences of a technological development are explored and evaluated. (The) objective is . . . to foster a more constructive evolution of our technological order." (p. 3) This authoritative report includes chapters on existing processes of assessment and decision, formulation of objectives, problems and pitfalls, and approaches and recommendations. It is concluded that new assessment mechanisms are needed with a broader and less self-interested viewpoint. To this end, "the panel urges the creation of a constellation of organizations, with components located strategically within both political branches, that can create a focus and a forum for responsible technology-assessment

(cont'd)

activities throughout government and the private sector . . . such organizations must be separated scrupulously from any responsibility for promoting or regulating technological applications . . ." (p. 117)

14. U.S. Congress. House Committee on Science and Astronautics. A Study of Technology Assessment. Report of the Committee on Public Engineering Policy, National Academy of Engineering. Washington: USGPO, July 1969. 208 pp. $1.25.

A summary of findings and commentary about the concept and practice of technology and assessment, with three experiments and an analysis of the methodology employed. Of particular interest is the first experiment, Technology of Teaching Aids, where alternative strategies of using ETV and CAI in higher education and their impacts are explored. (pp. 37-76) Although these experiments are preliminary, they indicate the scope and direction of future efforts. It is concluded that technology assessments are feasible, and that they can help to alert the nation to future benefits and to future problems, if produced in an environment free from political influence or predetermined bias.

15. Educational Policy Research Center at Stanford. Toward Master Social Indicators. Menlo Park, Calif.: Stanford Research Institute, Research Memorandum EPRC 6747-2, February 1969. 52 pp.

A discussion of social accounting, with particular emphasis on deriving master indicators (critical and aggregative indicators in hierarchical schema), relating indicators on individuals and social systems, and attaining "a comprehensive system of national social data capable of generating descriptive social reporting, projective social trending, and predictive social accounting." (p. 46)

3. Educational Futures

16. ZIEGLER, Warren L., with the assistance of Michael MARIEN. An Approach to the Futures-Perspective in American Education. Syracuse: Educational Policy Research Center, May 1970. 103 pp.

A synthesis of the attempts to define alternative educational futures in the U.S., discussing the idea itself and the various methodologies in the macrosystem context of the educating domain, or "the education complex" (which includes the "periphery" of adult education, suppliers to educating institutions, and organized beneficiaries--especially students). Five planning models are discussed: the future-as-the present, the future-as-an-extrapolation-of-the-past, the single alternative future, the technological future, and the comprehensive future. Problems in the polity, in policy-formulation, and in planning are discussed, and the document is concluded with two critiques by outsiders. For a summarization, see Notes on the Future of Education, item 181.

17. HIRSCH, Werner Z. and Colleagues. Inventing Education for the Future. San Francisco: Chandler Publishing Co., 1967. 353 pp.

19 articles arising from the 1965-66 Educational Innovations Seminar at UCLA. Largely concerned with methodology of planning and future-casting, and methods of introducing change.

18. FURSE, Bernarr and Lyle O. WRIGHT (eds.). Comprehensive Planning in State Education Agencies: A 7-State Project. Salt Lake City: Utah State Board of Education, 1969.

A compendium of reports from seven states: Utah, Colorado, Texas, Iowa, West Virginia, Connecticut, and Puerto Rico, as developed under Section 505 of Title V, E.S.E.A.

19. MAYHEW, Lewis B. Long Range Planning for Higher Education. Studies in the Future of Higher Education, Report No. 3. N.Y.: Academy for Educational Development, May 1969. 221 pp.

An authoritative assessment of statewide coordination systems for higher education and resultant master plans, voluntary coordination, and long-range planning of individual institutions. "Only 10 states have no master plans, higher education studies with the attributes of a master plan, or definite activities designed to result either in a master plan or some form of coordinating agency." (p. 1) But, although "the movement towards planning seems inexorable" (p. 1), of the ten non-planning states, "all seem unlikely, for a wide variety of reasons, to produce master plans." (p. 101) There is a great similarity among the states that plan and the unquestioned assumptions that plans are based on. Mayhew aptly questions a number of these assumptions, but not in terms of alternative future states of society. Rather, in his final chapter on "The Future of American Higher Education," "the outlines of American society for 1980 are reasonably clear." (p. 172) Clarity is provided by extrapolation of various demographic trends, and a scenario of relatively little change in higher education.

B. GENERAL TRENDS AND DESCRIPTIVE FUTURES

1. General

a. Global Overviews

20. SNOW, C. P. The State of Siege. The John Findley Green Foundation Lecture, Westminster College, November 1968. N.Y.: Charles Scribner's Sons, 1969. 50 pp.

This mini-book provides an excellent (albeit disturbing) introduction to future-study through a consciously pessimistic overview that juxtaposes the present world-wide malaise ("We are behaving as though we were in a state of siege") with critical future problems of population growth and famine. Although serious local famines will occur, a large-scale famine will not appear before 1980--but a major catastrophe is expected before the end of the century. To avoid this, population restriction and large-scale aid from the developed nations is required, but the eventuality of either is doubted. "To stint ourselves to avoid a disaster in twenty years--what body of people would even do it? Right." (p. 38) Three scenarios are offered, along with an assessment of their probable occurrence.

21. BRZEZINSKI, Zbigniew. Between Two Ages: America's Role in the Technetronic Era. N.Y.: Viking Press, 1970. 334 pp. $7.95.

(cont'd)

A broad perspective of global trends by a leading scholar of international relations. The U.S. is seen as the "principal disseminator of the technetronic revolution" (p. 24) and as "a society that is both a social pioneer and a guinea pig for mankind." (p. xv) ("Technetronic" has been coined by the author to connote the pervasive influence of technology and electronics.) Under these unprecedented conditions, there is an "age of volatile belief," leading to a worldwide condition of crumbling religions and ideologies. The Soviet Union is seen as steeped in "dull social and political orthodoxy," and, among five alternative paths for Soviet development (p. 164), the most probable short-term outcome is viewed as a balance between oligarchic petrification and technological adaptation. America is left to lead the way, despite problems with the New Left ("an essentially negative and obsolescent force"--p. 231) and doctrinaire liberals, and the future is optimistically seen as a combination of more social planning, participatory pluralism, rational humanism, and a community of the developed nations.

The distinguishing feature of "The Third American Revolution" that is creating three Americas in one (technetronic, industrial, and pre-industrial) is that it "simultaneously maximizes America's potential as it unmasks its obsolescence." Unfortunately, Brzezinski is overly preoccupied with "The New Left Reaction" and "The Crisis of Liberalism" (each meriting a full chapter), while failing to seriously address the problems of American obsolescence (which are teasingly mentioned in passing throughout the volume). Despite such imbalance, this volume should be important.

22. KAHN, Herman and Anthony J. WIENER. The Year 2000: A Framework for Speculation on the Next Thirty-Three Years. N.Y.: Macmillan, 1967. 431 pp.

A widely known and respected volume--perhaps inordinately so, considering the focus on international politics and the possibilities of nuclear war, with little or no mention of ecology, communications, transportation, education, and the global economy. Nevertheless, it is a modern classic (for the present, at least). Especially see the discussion of "The Basic, Long-Term Multifold Trend" (pp. 39-64), various scenarios, and the excellent final chapter on "Policy Research and Social Change."

23. LUNDBERG, Ferdinand. The Coming World Transformation. Garden City, N.Y.: Doubleday, 1963. 395 pp.

A broad and sophisticated assessment of basic social trends, in many instances seen within the span of the next 150 years. The second chapter provides a good history of future study, and the third chapter discusses various aspects "toward a general theory of social prediction." Major attention is given to population, economics, government, and education, with the final chapter paying briefer attention to the prospects of marriage and the family, the city, recreation, religion, medicine, the sciences, the judiciary, and the future of prognostics (which is seen as practically certain to become a regular university discipline).

The most noteworthy attribute of this overview is the major attention that is paid to learning needs and brainpower as a matter of national survival, so much so that a meritocracy is seen, with the 21st century as "the era of the savant," and continuing adult higher education for the elite as the

(cont'd)

largest segment of the educating system. This "entirely new mentally different governing class" will be selected by IQ (a measure that is disputed at present). "The New Upper Labor Force" (pp. 256-264) discusses trends in various specialties.

Western government will become a gigantic social service institution, and in the U.S., government will be completely centered in the national capital. "The pressure of overpopulation against resources in the backward countries makes it certain that the prospects for the spread of liberal government in the world are extremely dark." (p. 119)

24. McHALE, John. The Future of the Future. N.Y.: George Braziller, 1969. 322 pp. $7.95.

A wide-ranging overview aided by scores of charts and photographs, with particular emphasis on ecology, technology, and planetary resources. Chapter 1 provides a good summation of future-study in the context of a transition toward a world-man image, and Chapter 5 continues with a discussion of individual futurists and organizations studying the future (a continuing interest of McHale). The final chapter discusses various aspects of the emerging planetary society, concluding that "we must understand and cooperate on a truly global scale, or we perish." (p. 300)

25. PECCEI, Aurelio. The Chasm Ahead. N.Y.: Macmillan, 1969. 297 pp.

An Italian industrial manager lucidly assesses the macroproblems of our time with particular emphasis on the growing cleavage across the Atlantic brought on by the technological gap. "The gap, in effect, is between the GM age and the IBM age." (p. 64) Although Americans criticize their education system, in world perspective it is seen as far ahead: "a solid case can be made for the claim that education supports the very underpinnings of the technological gap of the future." (p. 50) To facilitate "Global Dimensions to Our Thinking," a New Approach called Project 69 is proposed to serve as "a multinationally sponsored feasibility study on systematic, long-term planning of world scope." (p. 219)

26. WAGER, W. Warren. The City of Man: Prophecies of a World Civilization in Twentieth-Century Thought. Boston: Houghton-Mifflin, 1963. 310 pp. Bib., pp. 293-302.

A comprehensive, scholarly, and highly readable "biography" of the vision of cosmopolis throughout history, as it has appeared in the East and West, in ancient Greece and Rome, in the Middle Ages, and in the present. Prophetic thinkers using various approaches are analyzed: the biological approach of Huxley and Teilhard de Chardin, the historical approach of Toynbee and Sorokin, and the "lines and spirals" approach of Hocking, Jaspers, Mumford, and Kahler. In contrast to these independent thinkers, various doctrinaire views are explored. The prospects of synthesis in philosophy, religion, knowledge, government, culture, and economics are dealt with in separate chapters, with a brief consideration in the final chapters of what might happen after a world civilization is attained. Annotated bibliography of about 100 "recent books on world order."

27. JUNGK, Robert and Johan GALTUNG (eds.). Mankind 2000. Oslo: Universitetsforlaget; London: Allen & Unwin, 1969. 368 pp. $14.90.

Papers presented at the First International Future Research Conference, Oslo, 1967. The first array of writings from the international "invisible college" of professional futurists. The second IFRC was held in Kyoto, Japan in April 1970. The 65 English language papers (to be subsequently published) may be ordered separately at 50 cents each, or $31.50 + $4.00 postage from IFRC, Kyoto International Conference Hall, Takara-Ike, Sakyo-Ku, Kyoto.

28. FULLER, R. Buckminster. Utopia or Oblivion: The Prospects for Humanity. N.Y.: Bantam Books, Matrix Editions, December 1969. 363 pp. $1.25.

Twelve papers based on talks or articles prepared over the past several years, providing a good overview of Fuller's thought. Especially see instructions for The World Game, and the explanation of the 14 dominate concepts unique to Fuller's philosophy: universe, humanity, children, teleology, reform the environment (rather than man), general systems theory, industrialization, design science, world service industries, ephemeralization and invisible commonwealth, prime design initiative, self-disciplines, comprehensive coordination, and world community and sub-communities of world man. (pp. 309-342) In the Epilogue written for this book there is a good summation of Fuller's wildest ideas: two-mile high tower habitations, tetrahedronal floating cities, 10,000 passenger aircraft, domed-over cities, sky-floating geodesic spheres, and mobile habitats.

In summation, "The comprehensive introduction of automation everywhere around the earth will free man from being an automaton and will generate so fast a mastery and multiplication of energy wealth by humanity that we will be able to support all of humanity in ever greater physical and economic success anywhere around his little spaceship Earth. . . . My intuitions foresee (man's) success despite his negative inertias. This means things are going to move fast." (pp. 362-363)

Another recent book by Fuller, Operating Manual for Spaceship Earth (Pocket Books, November 1970. 127 pp. $1.25) is hardly a manual but possibly a preface to one.

29. STULMAN, Julius. Climbing to Mankind Solutions. N.Y.: World Institute Council (777 UN Plaza), Fields Within Fields . . . Within Fields, 1:3, 1968. 120 pp. $1.00.

A one-man periodical promulgating globalism and the integration of knowledge. A pot-pourri of imaginative ideas, including proposals for an Executive Brain Center, Cargo City (a city within a city to enhance distribution), and Urban Distribution Satellites. The hospital of the future is advocated as a brain center rather than a bed center, and "the medical student should be goal-oriented with the attitude that everything he has been taught is to be considered already antiquated by the time he receives it." (p. 93)

"Only through a totally new method of approach such as that offered by the World Institute which maximizes man's knowledge in a constant flow, cross-catalytically across all the disciplines, breaking it down more nearly to underlying principles, and new common denominators, ultimately we believe to pulsing fields, in systems, in the 'methodology of pattern,' can he hope

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to cope adequately with his problems." (p. 17)

Also see an inspiring anthology edited by Stulman, Man's Emergent Evaluation (Fields Within Fields . . ., 3:1, 1970); especially "Alternate Futures and Habitability" by Willis W. Harman and "Towards a Humanistic Biology" by Abraham H. Maslow.

b. National Overviews

30. U.S. Department of Health, Education, and Welfare. Toward a Social Report. Washington: USGPO, 1969. 101 pp. 55 cents.

The first attempt by the federal government to systematically measure the social well-being of the U.S. and an important preliminary step toward a regular system of social reporting. Seven areas have been selected for initial study with the aid of existing data: health and illness, social mobility, physical environment, income and poverty, public order and safety, participation and alienation, and learning, science, and art. In the latter category, it is tentatively concluded (on the basis of limited data) that children are learning more than in the past, but that we could do much better. It is pointed out that The Digest of Educational Statistics "has virtually no information on how much children have learned" (the National Assessment of Educational Progress may soon supply some data to this end). A concluding appendix discusses "How can we do better social reporting in the future?" with comments on the deficiencies of existing statistics, the need for new social indicators, and the development of policy accounts (or meaningful integrations of social indicators).

31. GROSS, Bertram M. (ed.). Social Intelligence for America's Future: Explorations in Societal Problems. Boston: Allyn and Bacon, Inc., 1969.

A collection of authoritative articles on social indicators and the need for additional indicators. This volume is the hard cover marriage of the two volumes of The Annals of the American Academy of Political and Social Science entitled Social Goals and Indicators for American Society. (Vol. 371, May 1967; Vol. 373, September 1967.) Especially see Wilbur J. Cohen, "Education and Learning" (Annals, Vol. 373), which provides an excellent overview of education, introduces the concept of "the learning force," and points out the many areas where new educational indicators are needed.

32. SHELDON, Eleanor Bernert and Wilbert E. MOORE (eds.). Indicators of Social Change: Concepts and Measurements. N.Y.: Russell Sage Foundation, 1968.

An authoritative work by and for sociologists. Especially see Daniel Bell, "The Measurement of Knowledge and Technology" (pp. 145-246) and Beverly Duncan, "Trends in Output and Distribution of Schooling" (pp. 601-672, 32 tables). The Bell article, a far-ranging essay covering implications of knowledge growth in a post-industrial society, is especially recommended.

33. BELL, Daniel (ed.). Toward the Year 2000. Work in Progress. N.Y.: Houghton-Mifflin, 1968. 400 pp. Originally published by American Academy of Arts and Sciences in Daedalus, Summer 1967.

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Deliberations of the Commission on the Year 2000. Five of the 22 articles involve education and education-related topics, while four others discuss futures methodology. Although well publicized, these essays do not appear to be especially superior to those of any other anthology on the future. But this is "Work in Progress," foreshadowing a series of 8 volumes that will appear over the next 2-3 years, starting with Harvey Perloff (ed.), U.S. Government in the Year 2000. Other volumes will cover Values and Rights (Fred C. Ikle), Intellectual Institutions (Stephen Graubard), The Life Cycle (Kai Erickson), The International System (Stanley Hoffman), The Social Impact of the Computer (Robert M. Fano), Science and Society (Franklin Long and Robert Morison), and Business Institutions (Martin Shubik). Some of the volumes will be by a single author, while others will include contributed papers and discussions.

34. KOSTELANETZ, Richard (ed.). Beyond Left and Right: Radical Thought for Our Time. N.Y.: William Morrow, 1968. 436 pp. $7.95.

An excellent anthology that defines "radical" in the innovative sense, rather than the political sense. A good introduction to futures is provided through a provocative selection of articles by Boulding, Fuller, Kahn, Wiener, McLuhan, Bell, and others, as grouped in the categories of man and his future, technology and society, enterprise and remuneration, architecture, people and resources, education, defense, and redesigning society.

35. THEOBALD, Robert (ed.). An Alternative Future for America II. Revised and Enlarged Edition. Chicago: Swallow, May 1970. 199 pp. $6.00; paper $2.00.

Two-thirds of the book incorporates new material, including a "working appendix" listing various organizations studying alternative futures. Education (pp. 157-182) is defined as "the process of providing each individual with the capacity to develop his potential to the full." Four levels of learning are viewed: the first level is the simple perception of a fact; the second occurs when two facts are interrelated; the third (to which present systems of education are geared) makes it possible to improve our level of performance within our present perceptions of the state of the universe. "We are beginning to perceive the need for fourth-level learning--learning which permits us to change our perceptions about the nature of the world in which we live . . . the styles which make possible fourth-level learning are profoundly contradictory to those needed in third-level situations.

36. FERKISS, Victor C. Technological Man: The Myth and the Reality. N.Y.: George Braziller, 1969. 352 pp. Bib., pp. 295-327.

A political scientist looks at the vast changes transforming society and attacks "the myth of the future," which focuses attention on what is to come rather than what is. (pp. 10-16) He concludes that "Technological man is more myth than reality . . . Bourgeois man is still in the saddle . . . At the same time, an existential revolution is under way that may destroy the identity of the human race, make society unmanageable and render the planet literally uninhabitable. Bourgeois man is incapable of coping with this revolution. The race's only salvation is in the creation of technological man." (p. 245) To survive, a new philosophy is required, involving the new naturalism, the new holism, and the new immanentism. (p. 252)

Chapter 4, "The Prophets of the New" provides an excellent critique of prominent writers such as Ellul, McLuhan, Teilhard de Chardin, Skinner, Landers,

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and Marx. The unannotated bibliography lists about 500 books and 400 articles on technology, social change, and the future.

37. TOFFLER, Alvin. Future Shock. N.Y.: Random House, 1970. 505 pp. $8.95. Bib., pp. 461-483.

Future shock is the disease of change, "the dizzying disorientation brought on by the premature arrival of the future . . . culture shock in one's own society . . . the malaise, mass neurosis, irrationality, and free-floating violence already apparent in contemporary life are merely a foretaste of what may lie ahead unless we come to understand and treat this disease." (p. 13)

The sources come from increasing transience, novelty, and diversity. Transience involves the throw-away society, the new nomads (or the declining significance of place to human life), modular man (who has modular relationships with many, rather than holistic relationships with a few), the coming post-bureaucratic ad-hocracy, and the obsolescence of information. The novelty ratio (altering the relationship between the familiar and the unfamiliar) is growing, due to science, an economy geared to the provision of psychic gratification, and new family relationships. Diversity has led us to overchoice, a surfeit of subcults in the world of work and play, and a diversity of life styles enabling serial selves. This accelerating pace leads to serious psychological problems, obsessive reversion (both right-wing and left-wing) and super-simplifying.

Numerous strategies for survival are proposed for individuals (personal stability zones, crisis counseling, half-way houses, enclaves of the past, and enclaves of the future), technological control, social futurism (including comments on the collapse of technocratic planning and the need for social futures assemblies to salvage the system of representative politics) and education, which is seen as "a hopeless anachronism." Although education is admittedly undergoing rapid change, "much of this change is no more than an attempt to refine the existent machinery, making it ever more efficient in the pursuit of obsolete goals." (p. 359) Toffler advocates a Council of the Future in every school and community, provision for lifelong education, and developing common skills of learning, relating, and choosing while extending super-industrial diversity.

This challenging overview at times appears glib, especially with its zippy chapter headings and sub-headings. It is written for a broad audience, but backed up by considerable research, including a bibliography of 359 items. And it raises some very important questions.

38. BENNIS, Warren G. and Philip E. SLATER. The Temporary Society. N.Y.: Harper & Row, 1968. 147 pp.

Six separate essays by one or both of the authors "to force into view certain changes affecting vital aspects of our key institutions: organizational life, family life, interpersonal relationships, and authority." In the first essay, democracy is seen as inevitable--the necessary social system of the electronic era. In the second essay, Slater looks at change and the democratic family, noting that "experiential chasms between age cohorts serve to invalidate parental authority." (p. 24) The topics that follow concern the new style organizations beyond bureaucracy, social consequences of temporary systems, new patterns of leadership for adaptive organizations, and

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in the final chapter on the temporary society, the necessary education is prescribed for the art and science of being more fully human: how to get love, to love and to lose love; how to enter groups and leave them; how to attain satisfying roles; and how to cope more readily with ambiguity. "For the most part we learn the significant things informally and badly, having to unlearn them later on in life when the consequences are grave and frightfully expensive, like five-day-a-week analysis." (p. 127)

39. HAUSER, Philip M. "The Chaotic Society: Product of the Social Morphological Revolution," American Sociological Review, 34:1, February 1969, pp. 1-19. Based on Presidential Address, American Sociological Association annual meeting, August 28, 1968.

Contemporary society "is realistically characterized as 'the chaotic society' and best understood as 'the anachronistic society.'" (p. 1) The cause of the contemporary chaos is seen as "the social morphological revolution," which consists of increased size, density, heterogeneity, and tempo of change.

40. DRUCKER, Peter F. The Age of Discontinuity: Guidelines to Our Changing Society. N.Y.: Harper and Row, 1969.

An important book focusing on four major discontinuities: new technologies, the world economy (including a chapter on "The Global Shopping Center"), a society of large organizations (including a chapter on "The New Pluralism"), and the changed position and power of knowledge such that we are becoming a knowledge society--"the greatest of the discontinuities around us." This final section on knowledge (Chapters 12-17) is of immense importance to educators.

Drucker forecasts that the knowledge industries will account for one-half of the total national product in the late 1970's (p. 263), and argues that knowledge, rather than agriculture and mining, has now become the primary industry supplying the essential and central resource of production. Under these circumstances, "It is not that we cannot afford the high costs of education; we cannot afford its low productivity" (p. 334) and economic necessity will therefore force a revolution. "In a knowledge society, school and life can no longer be separate." (p. 324) The diploma curtain is seen as a problem, as is the prolongation of adolescence by the schools and the inherent conflict between extended schooling and continuing education. Because of our knowledge needs, "We face an unprecedented situation in which we will have to set priorities for new knowledge" (p. 365) and the existing disciplines will not remain appropriate for long, if knowledge is to have a future.

41. HACKER, Andrew. The End of the American Era. N.Y.: Atheneum, 1970. 239 pp. $6.50.

A pessimistic view of the disintegration of social cohesion in the United States, and the declining quality of scholarship.

42. HUXLEY, Aldous. Brave New World. (Many editions, first published in 1939.)

A classic anti-utopia that still provides a plausible scenario of an undesirable future condition. Especially relevant for our time are the observations on the use of "soma." George Orwell's 1984 (first published in 1949, also with many editions), although an obvious classic, lacks the wit and subtlety of Huxley.

43. Educational Policy Research Center at Stanford. Alternative Futures and Educational Policy. Menlo Park, Calif.: Stanford Research Institute, EPRC Memorandum Report, January 1970. 43 pp.

Tentatively summarizes the findings of a preliminary set of alternative future histories prepared at EPRC/Stanford, and suggests implications for educational policy. Of some two score future histories (ranging from Manifest Destiny and Exuberant Democracy to Authoritarian Recession, "1984"/Theocracy, and Collapse), "there are very few which manage to avoid one or another kind of time of serious troubles between now and 2050. The few that do, require a dramatic shift of values and perceptions with regard to what we came to term the 'world macroproblem.' This macroproblem will be the predominant concern of the foreseeable future, for all the alternative paths. It is the composite of all the problems which have been brought about by a combination of rampant technology application and industrial development together with high population levels." (p. 6)

"The overall message is clear. It is not yet time to redesign education for ecstatic individuals in a carefree world. To the extent that one believes that the analysis of the roots of the 'world macroproblem' holds up, to that extent he will believe that the paramount educational task for the nation is the development of a sense of purpose and unity. To that extent, also, it will seem essential that we re-examine all our present educational institutions, practices, and commitments to determine how their priority is altered in view of these future outlooks." (p. 42)

44. GORDON, Theodore J. and Robert H. AMENT. Forecasts of Some Technological and Scientific Developments and their Societal Consequences. Middletown, Conn.: The Institute for the Future, IFF Report R-6, September 1969. 98 pp.

The Delphi method involves a questionnaire mailed to a panel of experts who, after several iterations, tend to produce a converging group consensus--in this instance, on important prospective events, when they might take place, societal consequences and the degree to which they are likely to be beneficial or detrimental, and the degree to which intervention appears feasible.

The panelists ruminated on 32 physical events, including the following (median date of 50% chance of occurrence in parentheses): central data storage facility with wide public access (1980), language translators (1980), sophisticated teaching machines responsive to student's physiology (1980), individual portable two-way communication devices (1990), and 3-D television (1990). Similarly, 44 biological events were considered, including cheap non-narcotic drugs for producing specific personality changes (1980), laboratory creation of artificial life (1980), relatively inexpensive techniques to increase the world's arable acreage by 50% (1990), the ability to stimulate maximum cognitive growth of pre-school children (1995), and chemical control in the aging process (2015).

In addition to the elaboration of consequences for each of these events, 3 scenarios are constructed by the authors of the technological world in 1985, 2000, and 2025. The overall conclusion is that "Taken together, the forecasted events, the expected consequences, and the suggested strategies which might be employed in manipulating them, tell of a changing world in which man is gaining more precise control over his environment, his information, and himself; a world in which the new control techniques will increase

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comfort, eliminate some human misery, increase military power, and increase knowledge, but which will concomitantly bring political and social problems of unprecedented dimensions; a world in which the techniques for coping with these problems will not be much more advanced than they are today." (pp. 7-8)

These forecasts, however, should not be taken as Revealed Truth. (See Weaver, Item 10 for qualifications to the methodology.) Nevertheless, this broad array of possibilities should be considered, if for no other reason than as a compact listing of scientific aspirations circa 1969.

45. DE BRIGARD, Raul and Olaf HELMER. Some Potential Societal Developments, 1970-2000. Middletown, Conn.: The Institute for the Future, IFF Report R-7, April 1970. 134 pp.

Unlike IFF Report R-6 (above), which has precedents back to the original Gordon and Helmer RAND study of September 1964, this report concerns the first attempt to employ the Delphi method in forecasting societal developments. Adding to this lack of scientific precedent is the inherent difficulty of accurately gauging social matters in the present, let alone the future.

Nevertheless, the authors have forged ahead, providing substantial qualification to their effort. Potential developments are assessed in major categories of urbanization, the family, leisure and the economy, education, food and population, international relations, conflict in society and law enforcement, national political structures, values, and the impact of technology on government and society. In some instances, convergent opinions were obtained (e.g., inexpensive and uncomplicated mass contraceptive devices will be available, education will become much more decentralized and diversified), while in other instances there was wide disagreement (e.g., the alienation and impersonality of urban life will increase, widespread famine will occur). At the end of each of the ten sections, there is a brief but valuable discussion of "some policy issues raised by the preceding expectations." In the final section of the report, the panelists estimated to the year 2000 the course of 46 statistical indicators such as GNP, divorce rate, expenditures for education, life expectancy, income levels, overseas travel, etc.

Being an initial effort, this panel was limited to 34 members--hardly enough, in light of the multitude of topics explored, to focus a balanced array of expert opinion on any one question. Aside from providing a substantial listing of largely unconnected events, the chief value of this document is as an exercise in futures methodology that may serve to influence future applications of the Delphi technique.

c. Technology and Society

46. MESTHENE, Emmanuel G. Technological Change: Its Impact on Man and Society. Harvard Studies in Technology and Society. Cambridge: Harvard University Press, 1970. 124 pp. $4.95; N.Y.: NAL Mentor Books, 1970. 127 pp. $1.25. Bib., pp. 96-124.

An overview of the ongoing research of the Harvard Program on Technology and Society, woven into three chapters on social change, values, and economic

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and political organization. The opening comments quickly dispose of "three inadequate views": the optimistic view of technology as a virtually unalloyed blessing, the pessimistic view of technology as an unmitigated curse, and the complacent historical view that technology is not worthy of special notice. Rather, technology is seen as outstripping traditional categories of thought and established values and institutions, and necessary responses are suggested. The volume is concluded with a well-annotated bibliography of 70 items.

47. MULLER, Herbert J. The Children of Frankenstein: A Primer on Modern Technology and Human Values. Bloomington: Indiana University Press, 1970. 431 pp. $10.00.

A balanced, "informal" volume by a well-known "nonprofessional historian" (presently a Professor of English and Government), who addresses "the general reader." The view of technology is that the consequences have been "profoundly, thoroughly mixed," in contrast to Ellul, whose totally negative view is rejected as over-stated and over-simplified. After providing historical background, the impact on society and culture is explored in separate chapters on war, science, government, business, language, higher education, natural environment, urban environment, mass media, the traditional arts, religion, and people. The chapter on higher education observes the consequences of specialization and "the spell of scientific methods," with a view that "most college graduates--whatever their specialty--have too limited an understanding of our technological society for potential leaders." (p. 230) The final three chapters are under the heading "Toward the Year 2000," examining utopian writers of the past, the individual papers from the Commission on the Year 2000, and Kahn and Wiener's The Year 2000. A concern for human nature and recurrent human values is expressed throughout, and it is concluded that the Brave New World of Huxley "looks like a real possibility, considering the nature of technological man and affluent man in America." (p. 405) As suggested by the sub-title, this volume should serve well as a primer, despite some rambling, a reticence to forecast, and some curious notions, e.g., "most middle-class teenagers appear to be basically satisfied with themselves and their prospects, by no means alienated from their society." (p. 364. This may have been truer in 1968 when written, than in 1970 when published.)

48. BURKE, John G. (ed.). The New Technology and Human Values. Belmont, Calif.: Wadsworth Publishing Co., 1966. 408 pp.

A well-organized introductory reader including a section on "Education in a Technological Era" and a focus on problems such as leisure, automation, population, privacy, and government.

2. New Developments in Science and Technology

49. TAYLOR, Gordon Rattray. The Biological Time Bomb. N.Y.: World Publishing Co., NAL Books, 1968. 240 pp.

A pessimistic overview of the biological future by an authoritative popularizer of science. Covers sex, transplantation, death, mind control, genetics, and the creation of life, concluding that "The root of our problem, pragmatically, is the absence of any means of measuring satisfaction . . .

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Current indications are that the world is bent on going to hell in a handcart and that is probably what it will do." (p. 230) For a prestigious and optimistic overview, see Philip Handler (ed.), Biology and the Future of Man (Oxford, 1970. 936 pp. $12.50), the distillation of 175 distinguished American scientists working on 20 panels for the National Academy of Sciences. Although these two volumes have not been compared, the less "respectable" synthesis by Taylor may be far more relevant insofar as pointing out potential impacts on man.

50. HARRINGTON, Alan. The Immortalist: An Approach to the Engineering of Man's Divinity. N.Y.: Random House, 1969; Avon Discus edition, 1970. 287 pp. $1.25.

A well-written and provocative volume with the overstated central theme that fear of aging and death is "the central passion that drives us."

"The case for the immortalist point of view will rest on the evidence that since the beginning of recorded time man has engaged in a disguised drive to make himself immortal and divine, and that this overriding motive that accounts for much of his significant action, is now driving him toward his evolutionary crisis. The time has come for men to turn into gods or perish." (p. 29) The final chapter describes the society of immortal men, and an appendix deals with the inevitably raised question of population control, seen as a diminishing threat. It is concluded that "Humanity's push toward the utopia beyond time will not be slowed down by the warnings of demographers. Too much pressure has been built up behind it. Research is not going to be called off. The day will arrive when somebody wearing glasses and a sterilized apron will run through a laboratory yelling wildly and waving a test tube. Provided that the species refrains from destroying itself, there will be no way for this not to happen." (p. 262)

51. BENDER, A. Douglas, et. al. "Delphic Study Examines Developments in Medicine," Futures, 1:4, June 1969, pp. 289-303.

The results of a Delphi study conducted for Smith, Kline and French laboratories as an aid to the planning of a pharmaceutical company, and covering the areas of biomedical research, diagnosis, medical therapy, health care, and medical education. From these results, a scenario of "Medicine 1980" is presented. (pp. 294-300)

52. BJERRUM, Chresten A. "Forecast of Computer Developments and Applications 1968-2000," Futures, 1:4, June 1969, pp. 331-338.

Results of a Delphi study, with the general consensus that "rapid development of advanced computers and computer applications is expected to continue to the year 2000 and result in much more influence on society than today." (p. 335) Some of the forecasts: a 50% reduction of the labor force in present industry by the late 1980's, all major industries controlled by computers in the year 2000, patients in major hospitals controlled by computers around 1975, computer prices (despite advanced technology) to decrease by a factor of 100 (!) by the end of the 1980's, etc.

53. CALDER, Nigel (ed.). Unless Peace Comes. A Scientific Forecast of New Weapons. N.Y.: The Viking Press, 1968. 243 pp.

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16 experts discuss what the quest for new destructive power is likely to produce in forthcoming decades. An important inventory of possible horrors that should not be ignored.

54. KERN, Edward. "A Good Revolution Goes on Sale," Life, October 16, 1970, pp. 47-52.

An overview of Casette TV, with a chart of what to expect and when, as concerns six competing brand names. Also see feature articles in The New York Times, Sunday, July 5, 1970, Sec. 3, p. 1, and Saturday Review, August 8, 1970 (which lists 14 companies in the field). Many other articles and books will surely be published in the near future. This new technology may prove to have a far greater impact on education than broadcast television, once the bewildered consumer makes a choice between Cartrivision, Instavision, EVR, SelectaVision and other systems. Ultimately, we might even see a national or global casette university offering thousands of courses of instruction.

55. TEBBEL, John. "Libraries in Miniature: A New Era Begins," Saturday Review, January 9, 1971, pp. 41-42.

A brief overview discussing the Microbook Library of Encyclopaedia Brittannica, the PCMI Library Information System of the National Cash Register Co. (utilizing UMF, or Ultramicrofiche), The New York Times' Information Bank, a new index from University Microfilms, and possible applications of cassette video players to books. "We are approaching a new era that will certainly revolutionize libraries, probably reading habits, and possibly even publishing itself . . . What the transistor is to radio and television, high reduction photography is to the printed page." (Also see an editorial entitled "UMF and the Future," Saturday Review, April 19, 1969, p. 26.)

56. MEISE, Norman R. Conceptual Design of an Automated National Library System. Metuchen, N.J.: Scarecrow Press, 1969. 234 pp.

Demonstrates the feasibility of an automated system that utilizes existing technology. Also discusses bibliographic search, acquisitions, circulation data, cataloging, and tying together local libraries (public, academic, and special), regional centers, and a National Library Central (perhaps the Library of Congress, which is already moving toward automation). Although this volume is largely technical, it is nevertheless important for suggesting what would more or less appear to be the inevitable shape of future information systems.

3. Population, Food, Ecology

57. DJERASSI, Carl. "Birth Control after 1984," Science, 169: September 4, 1970, pp. 941-951.

Discusses contraceptive methods of the future and their feasibility. It is concluded that an "Orwellian" approach, such as disseminating an agent through drinking water, "is totally unfeasible by 1984." Fundamentally new birth control methods in the female (such as once-a-month pills) and a male contraceptive pill "probably will not be developed until the 1980's at the earliest, and then only if major steps . . . are instituted in the

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early 1970's." If new incentives for continued active participation of the pharmaceutical industry are not developed during the next decade, "birth control in 1984 will not differ significantly from that of today." (p. 951)

58. PADDOCK, William and Paul PADDOCK. Famine--1975! America's Decision: Who Will Survive? Boston: Little, Brown and Co., 1967. 276 pp.

The two brothers--one a retired diplomat, the other an agronomist and plant pathologist--have written a lucid, straight-forward, yet well-documented book that consistently underlines the theme that famine is inevitable in the underdeveloped nations. All of the familiar hopes about breakthroughs in synthetic foods, hydroponics, desalinization, ocean farming, agricultural research, fertilizers, irrigation, idle land, and land reform are smashed. "The timetable of food shortages will vary from nation to nation, but by 1975 sufficiently serious food crises will have broken out in certain of the afflicted countries so the problem will be in full view. The Time of Famines will have begun." (p. 205) The U.S. is seen as the sole help of the hungry nations, but having to make painful decisions as to which hungry nations to aid, in the "Age of Food" when food becomes the main source of international power. For an optimistic view, see Lester R. Brown, Seeds of Change: The Green Revolution and Development in the 1970's. N.Y.: Praeger, 1970. 205 pp.

59. NICHOLSON, Max. The Environmental Revolution: A Guide for the New Masters of the World. N.Y.: McGraw-Hill, 1970. 366 pp. $10.00.

Also see Paul R. and Anne H. Ehrlich, Population, Resources and Environment (Freeman, 1970. $8.95) and Lynton Keith Caldwell, Environment: A Challenge for Modern Society (N.Y.: Natural History Press, 1970. $7.95). These three books are considered by Paul Shepard (New York Times Book Review, August 30, 1970, p. 3) to be the best among a dozen new books on the environment. It is not known by this compiler as to what degree these books deal with the future; however, Paul Ehrlich has written several pessimistic eco-scenarios. For example, see Paul Ehrlich, The Population Bomb (N.Y.: Ballantine Books, 1968; 3 scenarios, pp. 69-80). Also see a single scenario by Ehrlich, "Eco-Catastrophe," in Garrett de Bell, The Environmental Handbook (N.Y.: Ballantine Books, 1970, pp. 161-176).

4. Cities

60. DOXIADIS, Constantinos A. "The Coming Era of Ecumenopolis," Saturday Review, March 18, 1967, pp. 11-14.

Due to population growth, foresees "a universal city, Ecumenopolis, which will cover the earth with a continuous network of minor and major urban concentrations of different forms . . . the pressure of population on resources will be such that important measures will have to be taken so that a balance can be retained between the five elements of the anthropocosmos in a universal scale." (p. 13) The anthropocosmos--the real world of man--contains nature, man himself, society, shells (or structures), and networks. For a listing of the extensive publications by Doxiadis and Associates, write The Athens Center of Ekistics, P.O. Box 471, Athens, Greece.

61. DOWNS, Anthony. Urban Problems and Prospects. Chicago: Markham Publishing Co., October 1970. 293 pp. $7.95; $3.95 paper.

11 essays, including Alternative Forms of Future Urban Growth in the U.S., Alternative Futures for the American Ghetto, Racism in America and How to Combat It, A Realistic Look at the Final Payoffs from Urban Data Systems, and Competition from Community Schools.

62. HODGE, Patricia Leavey and Philip M. HAUSER. The Challenge of America's Metropolitan Outlook, 1960 to 1985. Prepared for The National Commission on Urban Problems. N.Y.: Praeger, 1968. 90 pp.

A projection of growth in Standard Metropolitan Statistical Areas, largely in suburban rings, and a growing concentration of nonwhites in SMSA's, especially in central cities. "The problems facing the central city schools--especially in respect to integration--are highlighted by an anticipated almost doubling (92 percent) of nonwhite youngsters under 15, while corresponding white youth would diminish by 8 percent." (p. 55) "The projections clearly indicate that the present 'urban crisis' is likely to be greatly exacerbated in the coming years and that serious difficulties will face the nation in respect to intergroup relations, education, employment, housing, and provisions for the aged." (p. 57)

63. BANFIELD, Edward C. The Unheavenly City: The Nature and Future of Our Urban Crisis. Boston: Little, Brown and Co., 1970. 308 pp. $6.95.

A social scientist's hard-nosed and gloomy analysis of urban problems in the light of scholarly findings. "So long as the city contains a sizable lower class, nothing basic can be done about its most serious problems." (p. 210) "It is impossible to avoid the conclusion that the serious problems of the cities will continue to exist in something like their present form for another twenty years at least." (p. 255) Present programs are seen as prolonging these problems and perhaps making them worse. In part this is due to false definitions of the situation, perpetuating a "reign of error," e.g., defining so many situations as "critical." In Chapter 7, "Schooling vs. Education," Banfield advocates lowering the school-leaving age to 14 to get non-learners out of school and therefore stop their anti-education, and the possibility of school districts contracting with industry for job training. Possibilities for changing schooling are not considered. In Chapter 10, various alternatives to free children from the grip of lower-class culture are explored, such as state removal from parents, boarding schools, and day nurseries--but little hope is offered here or in other areas, other than the possibility of replacing the conventional wisdom of do-gooding over the next decade or two as a consequence of social science brought to bear on policy questions.

64. U.S. Department of Housing and Urban Development. Tomorrow's Transportation: New Systems for the Urban Future. Washington: Office of Metropolitan Development, Urban Transportation Administration, May 1968. 100 pp.

The report, a summary of recommendations for a comprehensive program in all aspects of urban transportation, is the first major effort of its kind. After surveying trends in urbanization and urban transportation, it lists various inter-related strategies for action, including recommended future

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systems such as dial-a-bus, personal rapid transit, dual mode vehicle systems, automated dual mode bus, pallet or ferry systems, and fast inter-urban transit links.

5. Manpower, Equality and the Economy

65. GARDNER, John W. Excellence: Can We Be Equal and Excellent Too? N.Y.: Harper & Row, 1961;Harper Colophon edition, 1962. 171 pp. $1.45.

A well-known (indeed, perhaps classic) essay on three competing principles (hereditary privilege, equalitarianism, and competitive performance), the search for talent necessitated by our complex society, and the need to select a variety of talents.

66. MILLER, S. M. and Pamela ROBY. The Future of Inequality. N.Y.: Basic Books, 1970. 272 pp. $7.95.

Inequality is seen as increasing during the 1970's due to the elimination of unskilled work and the increasing importance of education for all. Only deliberate public policy of compensatory programs could lead to greater equality, and this appears unlikely. Yet there will be greater sensitivity to inequities, resulting in still more dissent. But the possibility of change is held forth: "What we are suggesting is a radical restructuring capable of appealing to a large number of voters who feel the need for change and do not see the possibility of a politically viable program." (p. 252)

67. U.S. Senate. Select Committee on Equal Educational Opportunity. Equal Educational Opportunity.

Part 1A: Equality of Educational Opportunity, An Introduction.
Washington: USGPO, 1970. 413 pp. $1.50.
Part 1B: Equality of Educational Opportunity, Appendix.
Washington: USGPO, 1970. pp. 415-741. $1.25.

Hearings held April 20-29, May 5 and 12, 1970 "to study the effectiveness of existing laws and policies in assuring equality of educational opportunity and to examine the extent to which policies are applied uniformly in all regions of the United States." (GPO brochure)

68. YOUNG, Michael. The Rise of the Meritocracy, 1870-2033: An Essay on Education and Equality. London: Thames and Hudson, 1958; Baltimore: Penguin Books, Pelican edition, 1961. 190 pp.

A brilliant and witty essay by a sociologist who writes as a sociologist in the year 2033, defending the existing order and providing historical background for government leaders. (A short-term forecast is also provided, which proves disastrously inaccurate.) Brain-power planning became more effective as the measurement of merit (intelligence + effort) became more effective, so that "The world beholds for the first time the spectacle of a brilliant class, the five percent of a nation who know what five percent means." (p. 103) The most intelligent children obtained the best education, and to insure justice for late developers, quinquennial revaluations were held at Regional Centres for Adult Education. With the intelligent taking

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their rightful positions of leadership, the Pioneer Corps was established to provide the least responsible jobs for the least able people, and the Home Help Corps provided domestic servants again, after a lapse during the egalitarian age. Consequently, the gap between the classes became wider, with social inferiors being inferiors in other ways as well. Despite the Equalization of Income Act of 2005, tensions grew between the Technician's Party (which issued the "Chelsea Manifesto" in 2009, arguing for a classless and tolerant society where every human being could develop his own special capacities for leading a rich life), and the extreme conservatives who, seeing the principles of heredity and merit coming together, wished to turn full cycle and restore the hereditary principle.

Despite necessary simplifications (assuming an industrial society and "the dictatorship of biology" over women) there is considerable insight to be had from this essay, and the format serves as an exemplary model of a "future history."

69. LECHT, Leonard A. Manpower Needs for National Goals in the 1970's. N.Y.: Praeger, 1969. 183 pp. $7.50.

A report of ongoing research by the National Planning Association's Center for Priority Analysis, predicated on the assumption that the U.S. will move ahead to implement national goals in 16 critical areas: agriculture, area redevelopment, consumer expenditures, education, health, housing, international aid, manpower retraining, national defense, natural resources, private plant and equipment, research and development, social welfare, space, transportation, and urban development. It is concluded that "If we continue to follow present patterns of employment, discrimination, training, and education, our attempts to implement national goals and solve these problems will be hamstrung by substantial labor shortages. Even advanced technology and increased automation will not alter this picture for . . . each new development creates additional manpower demands requiring new skills. Hence, only advance planning in both private and public sectors can alleviate manpower bottlenecks that would cripple new programs at the outset." (book cover)

70. FOLGER, John K., Helen S. ASTIN, and Alan E. BAYER. Human Resources and Higher Education. Staff Report of the Commission on Human Resources and Advanced Education. N.Y.: Russell Sage Foundation, 1970. $17.50.

"As the pace of change in our society increases, the need will be even greater for manpower planning to avoid imbalances among the professions and the frustration of individual career plans. This work develops our understanding of the set of interrelated forces that determines the education and utilization of our major national asset--able men and women." (advt.)

71. BERG, Ivar. Education and Jobs: The Great Training Robbery. Foreword by Eli Ginzberg. N.Y.: Praeger (published for the Center of Urban Education), 1970. 200 pp. $7.50.

A well-researched sociological study of the relationship of education to employment, pointing out that many workers are over-educated, employee productivity does not vary with formal education, job dissatisfaction increases

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as educational level rises, and that "educational credentials have become the new property in America." Of particular interest is evidence indicating that elementary and secondary teachers are less likely to stay in teaching as they move up the credentials ladder. Unfortunately, Berg only analyzes the single dimension of education and jobs, without suggesting other purposes (such as citizenship and individual development) that schools might satisfy. (Although there is no trend data or forecasts, and only a hint of policy suggestions, this book nevertheless has broad implications for policy and is therefore included here.)

72. GALBRAITH, John Kenneth. The New Industrial State. Boston: Houghton-Mifflin, 1967. 427 pp.

A comprehensive view of modern economic life and the changes that are shaping its future, especially focusing on the Technostructure (the complex of specialists and technicians now exercising decisive power), the Revised Sequence (where, instead of the consumer as sovereign, large business firms now control markets and arrange consumer behavior to serve their needs), the Educational and Scientific Estate which is replacing the waning power of the unions as a political force, and "the convergent tendencies of industrial societies, however different their popular and ideological billing." Galbraith concludes that "if economic goals are the only goals of the society it is natural that the industrial system should dominate the state and the state should serve its ends. If other goals are strongly asserted, the industrial system will fall into its place as a detached and autonomous arm of the state, but responsive to the larger purposes of society." (p. 399)

73. MISHAN, E. J. Technology and Growth: The Price We Pay. N.Y.: Praeger, 1969. 193 pp.

A popular version of The Costs of Economic Growth (N.Y.: Praeger, 1967. 190 pp. $6.50), written to convince the public "of the need of radical change in our habitual ways of looking at economic events." For a parallel questioning of "Progress," see Staffan B. Linder, The Harried Leisure Class. N.Y.: Columbia University Press, 1970. 182 pp. $7.00.

74. The Staff of the Wall Street Journal. Here Comes Tomorrow! Living and Working in the Year 2000. Princeton, N.J.: Dow Jones Books, 1967. 196 pp.

Originally a series of 13 WSJ articles. Essentially optimistic and even approaching a "gee whiz" simplicity. Nevertheless, a large number of trends and plans are drawn together to report where and how it's happening as concerns population, food, computers, communications, energy, air travel, space, cities, automobiles, homes, education, medicine, and war. "Some Office of Education officials estimate that (education) outlays will generate as much as 25% of the $2.3 trillion GNP expected in 2000." (p. 155) A Ford Foundation official suggests that "there's a very good possibility that company operations will get to be so educationally competent that they will become degree-granting." (p. 164) This "pop futures" volume provides a quick overview of possible material developments, in a spirit of unabated optimism that one decreasingly finds.

6. Social Structure and Youth

75. CARROLL, James D. "Noetic Authority," Public Administration Review, 29:5, September-October 1969, pp. 492-500.

"This paper suggests that the state is withering away in a psychological sense because of an increase in awareness in contemporary society and a growing questioning of authority. It also suggests the state is withering in a technological sense because of a failure to use organized knowledge to satisfy expectations and values. It then suggests that a new form of the state, the 'innovative state' characterized by a new form of authority, may in time emerge." (Abstract) "Noetic" refers to "the increase in awareness--consciousness--of man's social and physical environment that is occurring throughout much of the world." (p. 492) Noetic politics is the politics of knowledge and awareness in an increasingly complex society that is shifting to a mental base of operations and a collegial form of authority. The implications for educating institutions are not discussed, but are obviously profound.

76. BENNIS, Warren G. Changing Organizations. N.Y.: McGraw-Hill, 1966.

Contrasts traditional ideas of bureaucratic organization with contemporary perceptions and organization change. Through forecasts of organizations of the future over the next 25 to 50 years, the end of bureaucracy is anticipated. The new social systems will be more complex, innovative, unprogrammed, with an emphasis on diverse goals and freedom of expression.

77. REICH, Charles A. The Greening of America: How the Youth Revolution is Trying to Make America Livable. N.Y.: Random House, 1970. 399 pp. $7.95. (Condensation in The New Yorker, September 26, 1970, pp. 42-111)

The best-seller that attacks the corporate state and the basic premises by which we live: 1) disorder, corruption, hypocrisy, war; 2) poverty, distorted priorities, and legislation by power; 3) uncontrolled technology and the destruction of the environment; 4) decline of democracy and liberty, powerlessness; 5) the artificiality of work and culture; 6) absence of community; and 7) loss of self.

To indicate the true significance of the new generation, three broad categories of consciousness are discussed: Consciousness I as the traditional outlook of the American farmer, small businessman, or worker trying to get ahead; Consciousness II representing the values of an organizational society--basically "liberal" but with the potential of becoming repressive; and Consciousness III as the new mode of independence and personal responsibility, seeking restoration of the non-material elements of man's existence.

"There is a revolution under way. It is not like revolutions of the past. It has originated with the individual and with culture, and if it succeeds it will change the political structure only as its final act. It will not require violence to succeed, and it cannot be successfully resisted by violence. It is now spreading with amazing rapidity, and already our laws, institutions, and social structure are changing in consequence. Its ultimate creation could be a higher reason, a more human community, and a new and liberated individual. This is the revolution of the new generation." (New Yorker, p. 42)

Reich has been widely attacked (by "Con II" people, of course) as a romantic, while "Con III" people undoubtedly find the book as a Bible for our times. In any event, "Con III" has rapidly become part of our national idiom.

78. MEAD, Margaret. Culture and Commitment: A Study of the Generation Gap. N.Y.: Doubleday and Natural History Press, 1970. 113 pp. $5.00.

A wide-ranging essay summarizing much of Mead's thinking over the past decades and adding new insights on our unique present that is "without any parallel in the past." The argument easily follows the chapter headings: The Past: Postfigurative Cultures and Well-Known Forbears (where lack of questioning and consciousness are the key conditions); The Present: Cofigurative Cultures and Familiar Peers (which is institutionalized through age grading); and The Future: Prefigurative Cultures and Unknown Children (where the child represents what is to come). All men are seen as equally immigrants into the new era, and "Today, nowhere in the world are there elders who know what the children know, no matter how remote and simple the societies are in which the children live. In the past there were always some elders who knew more than any children in terms of their experience of having grown up within a culture system. Today there are none." (pp. 77-78)

79. KENISTON, Kenneth. "You have to Grow Up in Scarsdale to Know How Bad Things Really Are," The New York Times Magazine, April 27, 1969.

Behind this innocent title lies a profound explanation of the broad trends resulting in student revolt. Rejecting the "Oedipal Rebellion" interpretation of Feuer and the "Historical Irrelevance" theory of Brzezinski and Bell, Keniston sees the fusion of two revolutions. On the one hand, there is a continuation of the old revolution of the industrial society, involving "the progressive extension to more and more people of economic, political, and social rights, privileges and opportunities originally available only to the aristocracy." Affluent youth take these values for granted seeing them as rights and not as goals. While demanding these rights, a new revolution--consonant with a post-industrial society--is developing. Beyond affluence is a concern with the quality of life and a stress on the values of individuality, participation, openness, and continuing human development.

80. GOODMAN, Paul. New Reformation: Notes of a Neolithic Conservative. N.Y.: Random House, 1970. 208 pp. $5.95.

"My subject is the breakdown of belief, and the emergence of new belief, in sciences and professions, education, and civil legitimacy . . . By "Reformation' I mean simply an upheaval of belief that is of religious depth . . . The crisis of legitimacy is deeper than political revolution; it is what I have here been calling religious: the young have ceased to 'believe' in something, and the disbelief occurs at progressively earlier years." (pp. x-xi, 127)

Although "rather sour on the American young," Goodman has even stronger words (as usual) on the school system, which is seen as "manned by the biggest horde of monks since the time of Henry VIII." (p. 21) The widening

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wisdom of the times that children must learn to learn "usually means picking up the structure of behavior of the teachers and becoming expert in the academic process. In actual practice, young discoverers are bound to discover what will get them past the College Board examinations." (p. 78)

"By and large, though not for all topics and all persons, the incidental process of education suits the nature of learning better than formal teaching." (p. 69) Accordingly, Goodman's suggested "Reformation" of education includes incidental education as the chief means of learning and teaching, eliminating most high schools, college training following entry into the professions, and delaying socialization to protect children's free growth. "Our aim should be to multiply the paths of growing up, instead of narrowing the one existing school path." (p. 87) For ages 6-11, a system of radically decentralized tiny schools is proposed, each with 28 children and 4 teachers (a licensed teacher, a college senior, a literate housewife and mother, and an intelligent high school graduate or dropout). Due to savings of topdown administration, special services, and construction, it is estimated that the mini-schools would cost 25% of present urban school costs. (p. 99) (Perhaps this is overstated, but such a scheme may yet be tried by the financially desperate cities.)

C. EDUCATIONAL TRENDS AND DESCRIPTIVE FUTURES

1. General

81. COOMBS, Philip H. The World Educational Crisis: A Systems Analysis. N.Y.: Oxford, 1968. 241 pp. Bib., pp. 217-226.

A competent overview of international educational trends, indicating that problems of rising demand and system obsolescence are afflicting all nations in every part of the world. Although the discussion is organized around inputs and outputs, it is nevertheless highly readable, covering not only the formal system but nonformal or "periphery" education. An excellent annotated bibliography of 74 items is provided.

82. U.S. Congress, House Committee on Science and Astronautics. The Management of Information and Knowledge. Washington: USGPO, 1970. 130 pp. 60 cents.

Seven provocative papers prepared for the Eleventh Meeting of the Panel on Science and Technology, by Herman Kahn, Stafford Beer, Daniel J. Boorstin, Thomas F. Green, Paul Armer, Osmo A. Wiio, and George Kozmetsky. Especially see "Education as an Information System" by Kozmetsky and "Education and Schooling in Post-Industrial America: Some Directions for Policy" by Green.

83. BYRNES, James C., with the assistance of Michael FOLK. The Quantity of Formal Instruction in the United States. Prepared for the U.S. Office of Education by the Educational Policy Research Center. Syracuse; EPRC, August 1969. 67 pp.

Examining the age-graded educational system, the development and maturation of a nearly universal system of secondary school instruction is considered as "the most significant event of the 20th Century in the development of educational institutions in the United States." Yet, the proportion of

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high school graduates completing a four-year post-secondary degree stands today roughly what it was about the turn of the century. The report concludes by describing two specific alternative states for the quantity of instruction (as measured by time), which highlights two possible extremes for future policy: a continuous rise in the amount of instruction received vs. stabilization.

84. SANDOW, Stuart A. Emerging Education Policy Issues in Law: FRAUD. Number One of a Series. Syracuse: Educational Policy Research Center, Syracuse University Research Corporation, November 1970. 47 pp.

    An experimental Delphi exercise conducted with a small group of attorneys, based on a news event of a hypothetical case of fraud that had been successfully pursued through the courts. 80% of the respondents saw the possibility of a fraud issue arising and succeeding in five years. Sandow is pursuing his study of possible precedent cases that may have profound impacts on education.

85. U.S. Office of Education. Education in the Seventies. Office of Program Planning and Evaluation, Planning Paper 68-1, May 1968. 44 pp.

    Projections of enrollments, staff, and expenditures to 1975 for elementary, secondary, and higher education.

86. The New York Times, "Annual Education Review," Monday, January 11, 1971, pp. 47-78.

    39 brief overview articles under seven headings: reforming education, some ventures in reform, styles and values, urban education, private and parochial schools, higher education, and management and finance. The 1970 edition (January 12, 1970 - coming at the turn of the decade) is more oriented toward descriptive futures, whereas the 1971 edition appears more oriented toward action, or a prescriptive future. Both are excellent overviews of contemporary thinking.

87. PETERSON, A.D.C. The Future of Education. London: The Cresset Press, 1968; N.Y.: Humanities, May 1969. 234 pp.

    In predicting future development, the author states at the outset that "education has one advantage over other social activities. It has lagged so far behind the changes in society as a whole that we already know that it at least needs considerable adaptation, before it is relevant even to the society in which we are now living." (p. 1) Although concerned with education in England, there may be considerable relevance to the U.S. as concerns the description and prescription of developments in content, methods, administration, the teaching profession, tertiary education, and financing.

88. MORPHET, Edgar L. and others (eds.). Designing Education for the Future: An Eight State Project. 7 volumes, 1966-1969.

    A massive project involving the 8 mountain states and headquartered in Denver. Although the 7 volumes, final report, and 5 sound filmstrips that resulted tend to be rather conventional, leaving one with the impression of blind men somewhat better informed about their elephant of inquiry,

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there are nevertheless some valuable contributions here, and the ambitious structuring of the entire project is to be especially commended. Most of the following are published by Citation Press, with Morphet and Charles O. Ryan as co-editors of the first three, and Morphet and David L. Jesser as co-editors of the remainder. Each volume is $2.00 paperbound.

Vol. 1. Prospective Changes in Society by 1980. N.Y.: Citation, 1967. 268 pp. (16 articles by non educators.)

Vol. 2. Implications for Education of Prospective Changes in Society. N.Y.: Citation, 1967. 323 pp. (20 articles, largely by professional educators, in response to Vol. 1.)

Vol. 3. Planning and Effecting Needed Changes in Education. N.Y.: Citation, 1967. 317 pp. (26 articles, largely by professional educators, on planning for and effecting change in schools, school systems, metropolitan areas, and at the state level.)

Vol. 4. Cooperative Planning for Education in 1980: Objectives, Procedures, and Priorities. N.Y.: Citation, 1968. 105 pp. (Four worthwhile articles concerned with prospective social change and the implications for educational planning.)

Vol. 5. Emerging Designs for Education. Denver: Designing Education for the Future, May 1968. 240 pp. (Four articles on implications of societal changes for the educational program, alternative local school district models, and alternative models for state financing.) Citation, 1968.

Vol. 6. Planning for Effective Utilization of Technology in Education. Denver: Designing Education for the Future, August 1968. 372 pp. (32 articles, many of them from representatives of potential supplying organizations.) Citation, 1969.

Vol. 7. Preparing Educators to Meet Emerging Needs. Denver: Designing Education for the Future, 1969.

2. Elementary and Secondary

89. MORPHET, Edgar L. and David L. JESSER (eds.). Emerging State Responsibilities in Education. Denver: Colo.: Improving State Leadership in Education (1362 Lincoln Street), 1970. 168 pp.

An initial publication of a new project financed under Title V of ESEA. "In this publication, the implications of recent and prospective changes in society for the emerging roles, functions and relations of state education agencies primarily concerned with the improvement of provisions and procedures needed for planning and effecting improvements in elementary and secondary education are considered in some detail. Some of the major alternatives in organization and procedures are also discussed." (p. vi)

90. CULBERTSON, Jack (ed.). "Education and Public Policy Symposium," Public Administration Review, XXX:4, July-August 1970, pp. 331-375.

Seven important articles as follows: "Educational Governance and Policy-Making in Large Cities" (Luvern L. Cunningham), "Low-Income Families and

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the Schools for their Children" (Theodore R. Sizer), "Federal Influences on Educational Policy" (Roald F. Campbell), "New Relationships Between Education and Industry" (Francis Keppel), "The State and Educational Policy" (Lawrence D. Haskew), "The Changing Nature of the School Superintendency" (Sidney P. Marland, Jr.), and "The Financing of Elementary and Secondary Education" (H. Thomas James).

91. EURICH, Alvin C. and the Staff of the Academy for Educational Development (eds.). High School 1980: The Shape of the Future in American Secondary Education. N.Y.: Pitman Publishing Corporation, 1970. 304 pp. $8.50.

Articles on the reformed curriculum in English, Social Studies, Science, Foreign Languages, and Vocational Education, in addition to views of the future of school buildings, guidance and testing, the school without walls, relevance, etc.

92. GOODLAD, John I. The Future of Learning and Teaching. An Occasional Paper of The Center for the Study of Instruction. Washington: National Education Association, 1968. 24 pp.

Address at 1967 inaugural ceremonies of Sam Lambert as NEA Executive Secretary. Discusses impact of computer on schools and informal education, the need for "human-based schools" and a humanistic curriculum. By the year 2000, "School, as we now know it, will have been replaced by a diffused learning environment involving homes, parks, public buildings, museums, and an array of guidance and programming centers." (p. 22) Teachers are warned that if they do not legitimize the computer, the profession will be bypassed.

93. McLUHAN, Marshall and George B. LEONARD. "The Future of Education: The Class of 1989," Look, 31:4, February 21, 1967, pp. 23-25.

A short and provocative forecast of education by two well-known writers. Mass education is seen as a child of the mechanical age, and with the advent of new technologies, "the very first casualty of the present-day school system may very well be the business of teacher-led instruction as we now know it." The new education "will be more concerned with training the senses and perceptions than with stuffing brains. . . The new student who makes his own educational space, his own curriculum and even develops many of his own learning methods will be unique, irreplacable."

94. BRUNER, Jerome S. "Culture, Politics, and Pedagogy," Saturday Review, May 18, 1969, pp. 69-72+.

Discusses learning in the future in light of the knowledge explosion and new retrieval techniques, and argues that "there are three forms of activity that no device is ever going to be able to do as well as our brain with its 5 x 10^9 cortical connections, and I would suggest that these three represent what will be special about education for the future.

"The first is that we shall probably want to train individuals not for the performance of routine activities that can be done with great skill and precision by devices, but rather to train their individual talents for research and development . . . in the sense of problem-finding rather than problem-solving . . . A second special requirement for education in the

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future is that it provide training in the performance of 'unpredictable services' . . . acts that are contingent on a response made by somebody or something to your prior act . . . Third, what human beings can produce and no device can is art--in every form . . ." (pp. 71-72)

95. KRAFT, Ivor. "The Coming Crisis in Secondary Education," The Bulletin of the National Association of Secondary School Principals, 49-298, February 1965, pp. 5-42.

The entire issue is focused on this trenchant article, which contends that the coming crisis will be fully upon us by 1975. Three components of the crisis involve the incompetence and timidity of educators, administrators, school boards, and policy makers, leaving secondary education leaderless and aimless; the polarization of schools into services for largely college oriented youth and services for lower class youth; and the content and subject matter of education or the discrepancy in relating the learner to what is to be learned. The remainder of the issue is devoted to 14 respondents.

96. ROBINSON, Thorington P. The Implication of Selected Educational Trends for Future School Systems. Santa Monica: System Development Corporation, January 1968. SP-3046. 94 pp.

An extrapolation of two major trends: 1. The trend toward the assumption by the schools of tasks and responsibilities previously undertaken by the family, other public agencies, and industry; and 2. The trend toward providing individualized education to all school students. Based on these trends, two skillfully constructed and plausible scenarios are presented.

97. GREEN, Thomas F. "Schools and Communities: A Look Forward," Harvard Educational Review, Spring 1969.

A philosopher's discussion of school-community relationships in the 1980-1990 period, focused on both change and continuity.

98. TOFFLER, Alvin (ed.). The Schoolhouse in the City. N.Y.: Praeger, 1968. 255 pp.

Sponsored by Stanford and Educational Facilities Laboratories. 21 authors offer answers on urban school construction problems, present case studies of developments in three cities (educational parks in Baltimore and Pittsburgh; Linear City in Brooklyn), and project the possible future of the schoolhouse in the city.

99. THOMAS, Thomas C. On Improving Urban School Facilities and Education. Menlo Park: Stanford Research Institute, Educational Policy Research Center, Policy Research Report EPRC-6747-1, May 1969. 126 pp.

An examination of education parks, mini-schools (storefronts), and neighborhood schools in terms of the reactions by the following stakeholders: white liberals, pro-integration blacks, pro-local control blacks, and teachers. It is concluded that "For different reasons, neither of the two facility innovations--education parks and mini-schools--offer much promise to urban education. One probably should not be implemented, and

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the other probably will not be implemented. Neighborhood schools will most likely remain the choice of most school districts." (p. 125) Nevertheless, "There will be considerable educational change over the next decade, though it may be cloaked in violence." (p. 126)

100. Educational Facilities Laboratories. Educational Change and Architectural Consequences. A Report on the Facilities for Individualized Instruction. N.Y.: EFL, 1968. 88 pp. Free.

In view of the new "spirit of innovation, experimentation, venturesomeness" four school designs are suggested (pre-primary, primary, middle, and secondary) "as a stimulus to open up the options in school design," in that "Too many of our schools still stand as handicaps to new programs and new thinking in education." (p. 85)

3. Higher Education

101. KERR, Clark. The Uses of the University. Cambridge: Harvard University Press, The Godkin Lectures, 1963. 140 pp.

Although primarily known for introducing the concept of the "multiversity," there is also a provocative chapter entitled "The Future of the City of Intellect." Planners might well contemplate the statement (p. 102) that "Change comes more through spawning the new than reforming the old."

102. EURICH, Alvin C. and the Staff of the Academy for Educational Development. Campus 1980: The Shape of the Future in American Higher Education. N.Y.: Delacorte, 1968. 327 pp.

A competent anthology of largely descriptive forecasts by the top writers on higher education, who adhere quite well to the objective of looking at "Campus 1980." Topics include the magnitude of higher education, higher education and the national interest, cities and universities, universities and the world, professionalism, teaching, community colleges, continuing education, college students, curriculum, instructional organization, instructional technology, graduate education, campus architecture, and the university and change.

103. MAYHEW, Lewis B. (ed.). Higher Education in the Revolutionary Decades. Berkeley: McCutchan, 1967. 466 pp.

A reader presenting an excellent selection of 34 articles, some of which are cited elsewhere in this bibliography. Although many of the articles deal with trends in the revolutionary decades since World War II, the inclusion of several future-oriented articles implies that forthcoming decades will also be revolutionary. Especially see the scenario by Alvin C. Eurich, "A Twenty-First Century Look at Higher Education," (pp. 443-453) in which universities are seen as stressing wisdom rather than fact-mongering, using television lectures by the world's leading scholars, judging students by standardized criteria of achievement rather than time spent in college, employing microfilmed libraries and portable television sets in dormitory rooms, and allowing individual determination of course mixes. (Eurich offers a similar but updated scenario in Reforming American Education, Item 151.)

104. EASTON, David. "The New Revolution in Political Science," The American Political Science Review, 63:4, December 1969, pp. 1051-1061. (Presidential Address delivered to the 65th Annual Meeting of the American Political Science Association, September 1969, New York City.)

Describes a new future-oriented "post-behavioral revolution" with its battle cries of relevance and action, taking place not only in political science but simultaneously in the other social sciences. It is seen as "the most recent contribution to our collective heritage" and "an opportunity for necessary change."

Several of the tenets that are suggested for the post-behavioral credo are: substance must precede technique, behavioral science conceals an ideology of empirical conservatism, to know is to bear the responsibility for acting and to act is to engage in reshaping society, etc. "The search for an answer as to how we as political scientists have proved so disappointingly ineffectual in anticipating the world of the 1960's has contributed significantly to the birth of the post-behavioral revolution." (p. 1053) "Both our philosophers and our scientists have failed to reconstruct our value frameworks in any relevant sense and to test them by creatively contemplating new kinds of political systems that might better meet the needs of a post-industrial, cybernetic society." (p. 1058)

105. CAFFREY, John (ed.). The Future Academic Community: Continuity and Change. Washington: American Council on Education, 1969. 327 pp. $7.00.

Proceedings of the 1968 ACE Annual Meeting, including articles by Bertrand de Jouvenel, Alvin C. Eurich, Constantinos Doxiadis, John Gardner, etc.

106. JOHNSON, Byron Lamar. Islands of Innovation Expanding: Changes in the Community College. Beverly Hills, Calif.: Glencoe Press, 1969. 352 pp.

An authoritative report on a 1967-68 non-statistical survey of innovation in instruction at more than 200 junior colleges. From the context of change in society, education, and junior colleges in general, Johnson discusses specific innovations such as co-op work-study, programmed instruction, the systems approach to instruction, gaming, students as teachers, independent study, etc. Aids and obstacles to innovation are then discussed, with concluding comments on the need for evaluation. Several trends are extrapolated into the short-range future.

107. EURICH, Alvin C., Lucien B. KINNEY, and Sidney G. TICKTON. The Expansion of Graduate and Professional Education During the Period 1966 to 1980. Studies in the Future of Higher Education, Report No. 2. N.Y.: The Academy for Educational Development, April 1969. 96 pp.

Based on a sample of 149 universities, all of which were visited in 1967 by a team under the direction of Lewis B. Mayhew. The universities studied expected a growth of 130% in graduate and professional school enrollments from 1967 to 1977. But their plans were frequently not written down in any detail, "nobody knows how much the new and expanded graduate programs will cost in the future," (p. 6) and it was implicitly expected that there would be extensive aid from the federal government. No cutbacks in programs are being planned anywhere: "the theory seems to be

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that society is going to need more of everything for decades ahead." (p. 6) This document may be somewhat outdated due to recent cutbacks in federal funding of science.

108. JENCKS, Christopher and David RIESMAN. The Academic Revolution. Garden City: Doubleday, 1968. 580 pp. $10.00.

An authoritative overview focusing on the growth of professionalism and the consequent emergence of the "university college" as "the model for the future." Recent dissent and subsequent change, however, may make this thorough volume somewhat obsolete in the next few years. Although largely empirical, the final chapter is devoted to "Reforming the Graduate Schools," a concern that is largely overlooked in the many volumes devoted to undergraduate education.

109. RUNKEL, Philip, Roger HARRISON, and Margaret RUNKEL (eds.). The Changing College Classroom. San Francisco: Jossey-Bass, October 1969. 368 pp. $9.50.

"Original reports of innovations in college teaching written for this book by . . . college teachers who describe their work in experimental colleges in state universities, liberal arts colleges, urban colleges, private religious colleges, junior colleges, and a Negro college . . . The classes discussed range in size from a dozen to well over a thousand students. The subjects range from mathematics, speech, and writing to psychology, organizational management, and creativity . . . A commonality of goals and an underlying theory unite the underlying practices and experiments: increasing the relevance of education to meet the values and needs of students and increasing the students' freedom, self-direction, and learning-how-to-learn." (advt.)

110. ROURKE, Francis E. and Glenn E. BROOKS. The Managerial Revolution in Higher Education. Baltimore: Johns Hopkins, 1966. 184 pp.

A thorough analysis, based on questionnaires and interviews, that estimates the degree to which more rationalized college and university administration has taken place, as regards use of EDP equipment, offices of institutional research, and allocation of resources. Several of the conclusions are that the potential of computers is still largely unrealized, institutional self-study will become increasingly common and varied, and that there is an "unmistakable" trend toward more rational procedures in the management of money and space. The emerging style of university administration is toward greater candor, a cabinet style of governing, and new forms of decision-making. One of the great unresolved questions is whether the new managerial techniques lead to a centralization of power.

111. WALLERSTEIN, Immanuel. University in Turmoil: The Politics of Change. N.Y.: Atheneum, 1969. 147 pp. $4.95.

A deep, astute, and elegant essay by a political sociologist. "Three questions about the university in society have come to the fore--none of them new but all posed with renewed urgency and simultaneously. One question is the degree to which it is appropriate for the university . . . to collaborate with the government. The second question is the degree to which it is appropriate for the university to attach some priority to the needs

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and concerns of the oppressed groups within the society. The third question is how the university may itself best be governed . . ." (p. 9)

"However it acts in relation to the government, the university is engaged in politics." (p. 11) Changing university linkages to government is seen as having relatively little impact on external policy, but changing university policies in view of their growing role as a mechanism for distributing social status and as urban property owners is seen as having a profound impact on society. Finally, overt clashes with the ethnic left and the ideological left is seen as part of a long-range trend to libertarian and participation values. "We are at the early stage of this conflict, the stage of initial testing of strength." (p. 133) This, in turn, will evolve to a stage of constitution-drafting, "perhaps for thirty years or so." (p. 129)

"Thus reform of curricula is not a primary issue. It will come about almost automatically as a consequence of the other changes we have been discussing, and it will not come in any significant measure without them." (p. 146)

112. LADD, Dwight R. Change in Educational Policy: Self-Studies in Selected Colleges and Universities. A General Report Prepared for The Carnegie Commission on Higher Education. N.Y.: McGraw-Hill, 1970. 231 pp. $5.95.

Brief but well-drawn case studies of the collegial process of attempted reform at Berkeley, New Hampshire, Toronto, Swarthmore, Wesleyan, Michigan State, Duke, Brown, Stanford, Columbia, and UCLA. "While the scope and degree of the proposed changes vary, all have in common the use of the traditional, collegial process of study, analysis, discussion, and debate leading to a decision based on general acceptability . . . Unhappily, the results of these studies seem to lend support--at least in a negative way--to the efficacy of pressure politics as a way of bringing about change." (p. 197)

"The situations reviewed here suggest that these studies have rarely succeeded in bringing about any fundamental change in educational policies on the campuses involved except where a significant portion of the faculty had accepted the desirability of some change before the study began or where pressures for change from outside the faculties were much in evidence." (p. 200)

"It is quite obvious that we can have personnel policies and purchasing policies and library policies in any university, however large. All large bureaucracies have these. What is less obvious after examination of these studies is whether or not large institutions can have educational policies--whether the American tradition of giant institutions has not, in the case of higher education, reached the point of diminishing returns." (concluding comment, p. 209)

4. Adult Education

113. MOSES, Stanley. The Learning Force: An Approach to the Politics of Education. Prepared for the U.S. Office of Education by the Educational Policy Research Center. Syracuse: EPRC, March 1970. 40 pp.

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The Learning Force includes all students in Core institutions (elementary, secondary, and higher education) as well as those in the Periphery (corporation and military training programs, proprietary schools, anti-poverty programs, correspondence schools, formal courses conducted over educational television, and other adult education programs conducted by Core institutions, museums, libraries, unions, etc.). Moses supplies trend data (1940-1975) indicating that enrollments in the Periphery (assessed on a head count rather than an FTE basis) are growing at a rapid rate and will be about 25% greater than Core enrollments by 1975. It is concluded that "Activities in the Periphery provide the basis for developing a new framework for the considerations of educational policy. A consideration of the total Learning Force provides the basis for making an accurate assessment of the true dimensions of education in American society, not only regarding enrollments . . . but also total educational expenditures and employment. A consideration of the total learning force also provides the basis for making more rational decisions regarding policy for the Core as well as providing the basis for new initiatives in the Periphery." (p. 37)

114. TOUGH, Allen. The Adult's Learning Projects: A Fresh Approach to Theory and Practice in Adult Learning. Toronto: Ontario Institute for Studies in Education, July 1971. Approx. 210 pp. and $7.00 (U.S. and Canadian).

The latest and most sophisticated of a series of studies conducted by Tough and his associates on self-initiated learning behavior. A "learning project" is a series of "learning episodes" totalling more than 7 hours, an episode being defined as an effort "in which more than one half of a person's motivation is to gain and retain certain knowledge and skill that is fairly clear and definite."

Among 66 adults, the in-depth interviews discovered that 65 had conducted at least one learning project in the past year, with an average of 8 distinct projects totalling 700 hours a year of learning effort. Less than 1% of these projects were motivated by academic credit, and about 70% of the projects were planned by the learner himself. Ten 16-year olds and ten 10-year olds were also interviewed, with a parallel discovery of significant non-school learning activity.

Despite the small data base, Tough raises a number of fundamental questions for further research and for educational policy directed toward learners of all ages. Four clusters of suggestions are offered for making schools and colleges more useful in the light of observed learning behavior: producing graduates who are willing and able to set appropriate learning goals, providing students with a greater choice of how to learn, freeing the student to choose a larger proportion of subject matter that he wants to learn, and decreasing the emphasis on credit as a motivation for learning. For adults, recommendations are made for better help and resources with both planning and actual learning, and for new ways of helping people become more competent as learners.

115. ZIEGLER, Warren L. (ed.). Essays on the Future of Continuing Education--World-wide. Syracuse: Syracuse University Publications in Continuing Education, S.U. Press, July 1970. 141 pp. $3.00.

Eight articles discussing trends in adult education and methods of thinking about and planning for the future.

116. LIVERIGHT, A. A. A Study of Adult Education in the United States. Boston University Center for the Study of Liberal Education for Adults, 1968. 138 pp.

Although not primarily aimed at trends or futures, both are considered somewhat in this authoritative overview. Of especial note is the statement that "Even if nothing further is done to stimulate participation, adults involved in continuing education will triple in number within the next twenty years." (p. 13) Views an upgrading image (from "remedial" to "lifelong" learning) and new program directions involving more courses specifically for adults, more non-credit courses, credit for experience, new degree programs, etc.

117. ANDERSON, Darrell and John A. NIEMI. Adult Education and the Disadvantaged Adult. Syracuse: S.U. Publications in Continuing Education and ERIC Clearinghouse on Adult Education, Occasional Papers No. 22, November 1970. 96 pp. Bib., pp. 71-96. $1.50.

A review of the adult education literature to determine the role of education in altering the personal and social characteristics of disadvantaged adults, concluding that "Any plan for a remedy for disadvantage must be concerned with cultural change which involves an alteration in the over-all way of life. Piecemeal approaches directed toward the alleviation of individual distress will not solve the problem because they will not alter the basic cultural environment . . . Thus, it may be more economical in the long run to establish new programs unrelated to present educational institutions than to attempt to reconstruct existing systems."

The bibliography of 317 items is alphabetical and unannotated.

118. BIENVENU, Bernard J. New Priorities in Training: A Guide for Industry. N.Y.: American Management Association, 1969. 207 pp. $10.50.

Argues that the bewildering rate of change demands that training become a continuous process, whereas at the present time, 9 out of 10 employee training programs are sporadic affairs. Advocates a "total training" process.

5. Educational Personnel

119. U.S. Office of Education. The Education Professions: 1968. A Report on the People Who Serve Our Schools and Colleges. Washington: USGPO, OE-58032, June 1969. 377 pp. $2.75.

The first annual assessment of the state of the education professions, as required by the Education Professions Development Act of 1967. A thorough analysis of trends and future requirements through 1975 at all levels, including preschool, elementary, and secondary programs; vocational, post-secondary vocational, and adult education programs; and undergraduate and graduate education, with analysis of personnel in both public and private institutions, and teacher training at each level. Despite "the lack of adequate and comprehensive data on educational personnel . . . the report will hopefully prove to be a positive step toward building a sophisticated bank of information which can be useful to all levels of education." (p. iii)

120. STONE, James C. Breakthrough in Teacher Education. San Francisco: Jossey-Bass, 1968. 206 pp. $7.50.

Discusses the Breakthrough Programs (largely sponsored by the Ford Foundation): "a scattering of models from which new patterns in teacher education might spread. Most of the nation's colleges continue to prepare the majority of future teachers in conventional programs." (p. 155) Especially see chart of trends in teacher preparation (pp. 175-76) and new models for innovation proposed in the last chapter.

121. ROSOVE, Perry E. An Analysis of Possible Future Roles of Educators as Derived from a Contextual Map. Santa Monica: System Development Corporation, SP-3088, March 8, 1968. 82 pp.

A subsequent report to SP-3026 that presents the "complete" results of the experiment in the use of contextual mapping. "The mapping process results in the identification of 98 different possible future roles for educators and also, as a by-product, it identifies 101 potential future issues in education." (p. 3) It is concluded that "the projections of current trends in 18 areas as displayed on the contextual map suggest that (the crisis in education) is merely beginning and will become increasingly complex, fractious, and more costly to resolve in the two decades ahead." (p. 30) To prevent an evolutionary form of drift, four new concepts are proposed: the learning environment as a real time facility (blurring the distinction between work and education); the continuous, vertical, learning organization serving all educational levels; the learning environment as a multipurpose facility; and (the major conclusion of the study as derived from the above three concepts) the generic role of the "learning facilitator" (rather than the present generic role of "teacher") as a counselor, engineer, instructor in the use of learning resources, and researcher.

6. Educational Technology

122. OETTINGER, Anthony, with the collaboration of Sema MARKS. Run, Computer, Run: The Mythology of Educational Innovation. Harvard Studies in Technology and Society. Cambridge: Harvard University Press, 1969. 302 pp. $5.95.

An authoritative, caustic, myth-crumbling essay concluding that "The formal education system is bound to society in a way that is almost ideally designed to thwart change. Little substantive technological change is therefore to be expected in the next decade." (p. 215) The "present innovation fad . . . favors highly visible quickie approaches creating the illusion of progress." (p. 220)

123. ROSSI, Peter H. and Bruce J. BIDDLE (eds.). The New Media and Education: Their Impact on Society. Chicago: Aldine, 1966; Garden City: Doubleday Anchor, 1967. 460 pp.

Eleven articles by sociologists on recent and projected technological developments, and the impact of the news media on school systems, higher education, adult education, and the total society.

124. Educational Facilities Laboratories. The Impact of Technology on the Library Building. N.Y.: EFL, 1967. 20 pp. Free.

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A brief and competent summary of expert opinion concerning the impact of computers on college library buildings.

D. EDUCATIONAL POLICY PROPOSALS: REFORMS OR THOROUGH ALTERNATIVES?

1. Commission Reports

a. General

125. National Goals Research Staff. Toward Balanced Growth: Quantity with Quality. Washington: USGPO, July 1970. 222 pp. $1.50.

Outlines options open to policy-makers and advantages and disadvantages of various actions in areas of population growth and distribution, environment, education, consumerism, technology assessment, basic natural science, and economic choices. The introduction by Daniel Moynihan discusses the movement from program to policy-oriented government. The overall theme of balanced growth seeks a more interdependent development, as opposed to policies in the past that "have dealt in a largely independent fashion with specific objectives in their own context." Although judged by some to be overly equivocal, this important document suggests a new direction in public decision-making. The tone contrasts quite markedly, for example, with the certitude of purpose in Goals for Americans: Programs for Action in the Sixties (Prentice-Hall, 1960).

126. National Commission on the Causes and Prevention of Violence. To Establish Justice, To Insure Domestic Tranquility. Final Report. Washington: USGPO, December 1969. 338 pp. $1.50.

Especially see Chapter 9 on campus disorder, which recommends a code of conduct for student-faculty-administration relations, contingency plans for dealing with campus disorders, more rapid and effective decision-making, better communications both on the campus and with alumni and the general public, caution against reactive legislation, and a focus on "striving toward the goals of human life that all of us share and that young people admire and respect." (p. 281) Chapter 10, on "Challenging Our Youth" recommends a lowering of the voting age, draft reform, expanded programs of public service and opportunities for inner-city youth, more research on marijuana use, lowered penalties for use and possession of marijuana, and better communication to bridge the generation gap.

127. National Commission on Technology, Automation, and Economic Progress. Technology and the American Economy. Vol. 1. Washington: USGPO, February 1966. 115 pp.

The overall conclusion of the Commission is that "our society has not met the challenge of technical progress with complete success. There is much to be done." (p. 6) Of the many recommendations for facilitating adjustment to change, those concerning education are among the most important: universal high school graduation, free public education through grade 14, an open ended system of education stressing lifelong learning, etc. Chapter 9, "Improving Public Decision Making," has an excellent discussion of the role of "social accounting," systems analysis, and "inventing the future."

128. Commission on Tests. Report of the Commission on Tests. I. Righting the Balance. (118 pp. $2.00) II. Briefs. (194 pp. $3.00) N.Y.: College Entrance Examination Board, 1970. $4.50 for both volumes in boxed set.

Recommends that the College Board modify and improve its tests and associated services in seeking to serve its distributive, credentialing, and educative functions. It is suggested that the Board act for both its traditional institutional clientele and for its student clientele, and that the "other half" of non-college-going high school students be served through a job entry testing program and regional centers for guidance in continuing education. Thus, the theme of "Righting the Balance" in the first volume. The second volume consists of 14 papers by Commission members, serving as background to the many recommendations made.

129. NATIONAL ACADEMY OF SCIENCES, Committee on Science and Public Policy, and SOCIAL SCIENCE RESEARCH COUNCIL, Committee on Problems and Policy. The Behavioral and Social Sciences: Outlook and Needs. A Report by the Behavioral and Social Sciences Survey Committee. Englewood Cliffs: Prentice-Hall, 1969. 230 pp. $7.95.

A systematic self-portrait by 6-10 member panels for each of ten social science disciplines, largely based on a questionnaire survey of research units at 135 universities. Separate reports are being published for each of the disciplines: anthropology, economics, history as social science, political science, sociology, psychology, geography, linguistics, psychiatry, and statistics.

This summary volume provides a good layman's overview of the social sciences: what they do, how they do it, and what they can be expected to contribute toward the formulation of public policy. Major recommendations are as follows: a system of social indicators culminating in an Annual Social Report to the Nation that identifies and measures fundamental changes in the quality of life for all people; in support of the above, a special technical commission to investigate and recommend procedures for a national system of statistical data reporting designed for social scientific purposes; the creation of new interdisciplinary programs of teaching and research symbolized by the organizational concept of a Graduate School of Applied Social Research; and an annual increase of 12-18% in federal support of basic and applied research.

130. QUATTLEBAUM, Charles A. Federal Educational Policies, Programs and Proposals. A Survey and Handbook. Part I: Background; Issues; Relevant Considerations. Washington: USGPO, House Document No. 398 (Printed for the Use of the Committee on Education and Labor), December 1968. 167 pp. 75 cents.

A valuable overview of a variety of areas as follows:

--Federal Policies in education, 1777-1960

--Congressional enactments concerning education and training, 1961-1966

--History, organization, and functions of USOE and NSF

--Recommendations of 17 governmental and 10 nongovernmental ad hoc advisory commissions, 1929-1967

--Policies advocated by 23 government bodies and 55 private organizations.

b. Elementary and Secondary

131. National Advisory Commission on Civil Disorders. Report of the National Advisory Commission on Civil Disorders. Special introduction by Tom Wicker. N.Y.: E. P. Dutton and Bantam Books, March 1968. 609 pp.

Based on Chapter 16 ("The Future of the Cities"), Chapter 17 ("Recommendations for National Action") contains an excellent survey of inner-city education, with many proposals for reform. (pp. 424-457)

132. President's National Advisory Commission on Rural Poverty. The People Left Behind. Washington: USGPO, September 1967. 160 pp.

Chapter 5 lists 33 recommendations for changing educating systems so that rural citizens may be better equipped to participate in the modern world.

133. U.S. House of Representatives, Committee on Education and Labor, General Subcommittee on Education. Needs of Elementary and Secondary Education for the Seventies: A Compendium of Policy Papers. Washington: USGPO, Committee Print, March 1970. 982 pp.

"The first section of the compendium consists of essays which have been prepared at the invitation of the Subcommittee by a distinguished group of more than a hundred university faculty members and administrators, industrialists and businessmen, journalists, social philosophers, professional educators, educational researchers, scientists, and other prominent citizens, reflecting perhaps every shade of opinion about education. They have been asked both to predict what will be the compelling issues of the seventies and beyond and to suggest potentially fruitful alternatives. The choice of specific topics, however, has been left to the individual writers.

"The second section of the anthology is comprised of the formal statements which were submitted by witnesses when they testified at the Subcommittee hearings.

"This collection of papers represents perhaps the most extensive survey of the educational needs of the seventies that has been attempted to date." (Foreword by Congressman Roman C. Pucinski, p. v.)

Such a self-assessment can only be heartily seconded. This document is a gold mine, a non-indexed encyclopedia of alternatives.

134. Central Advisory Council for Education (England). Children and Their Primary Schools. Vol. 1: Report; Vol. 2: Research and Surveys. London: Her Majesty's Stationary Office, 1967. 556 pp. and 633 pp. respectively. (May be ordered from Sales Section, British Information Services, 845 Third Avenue, New York, New York 10022. Vol. 1, $4.95; Vol. 2, $5.85.)

Known as "The Plowden Report," this thorough and comprehensive study looks at "primary education in all of its aspects and the transition to secondary education." The following are but a few of the many conclusions and recommendations: a higher priority in the educational budget should be given to primary schools (for dollars spent on older children will be wasted if not spent on them during their primary years); "Finding Out" has proven to be better for children than "Being Told"; family background is important;

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half-time education for 3 and 4 year olds should be provided to ease the transition from home to school; and learners must develop self-confidence in early years.

135. Living and Learning. The Report of the Provincial Committee on Aims and Objectives of Education in the Schools of Ontario. Toronto: Ontario Department of Education (44 Eglinton Avenue West), 1968. 221 pp.

A lovely document, summarizing a wide array of literature and special reports, written cogently and forcefully, and amplified by photographs and drawings. The Committee arrived at two fundamental principles: a) the right of every individual to have equal access to the learning experience best suited to his needs, and b) the responsibility of every school authority to provide a child-centered learning continuum that invites learning by individual discovery and inquiry. (p. 179) Based on these principles, 258 recommendations are made in four broad categories reflecting the sequence of the Report: The Learning Program, Special Learning Situations, The World of Teaching, and Organizing for Learning. The appropriate body for consideration and action is listed with each recommendation.

136. U.S. Congress. House of Representatives, Committee on Education and Labor. To Improve Learning: A Report to the President and the Congress of the United States by the Commission on Instructional Technology. Washington: USGPO, March 1970. 124 pp. 50 cents.

Concludes that technology could bring about far more productive use of the teacher's and the student's time, but "that one-shot injections of a single technological medium are ineffective. At best they offer only optional 'enrichment.' Technology, we believe, can carry out its full potential for education only insofar as educators embrace instructional technology as a system and integrate a range of human and nonhuman resources into the total educational process." (p. 7)

The report recommends establishing the National Institutes of Education within the Department of Health, Education and Welfare, and a National Institute of Instructional Technology within the NIE. The NIIT would establish a resource center, conduct demonstration projects, train and retrain teachers and specialists, and bring education and industry together.

The Commission, chaired by Sterling M. McMurrin and staffed by members of the Academy for Educational Development, will publish its full report in two volumes through the R. R. Bowker Co. Appendix G of this summary report lists about 140 papers prepared at the request of the Commission and about 80 papers sent to the Commission for information. Presumably, these will be drawn together in the full report.

137. Advisory Council on Vocational Education. Vocational Education: The Bridge Between Man and His Work. General Report of the Advisory Council. Washington: U.S. Office of Education, November 1968. 220 pp. $2.25.

Part I reviews growth and development, financing, administration, research, teacher education, vocational guidance, supporting services, and contemporary local programs. Part II deals with achievements and limitations, social and manpower environments of vocational education, and innovations and new directions (including an excellent summation of 15 trends on p. 191). It is

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concluded that "there is a growing recognition that far too many youths are leaving school inadequately prepared to enter the labor market and that the schools must assume the responsibility for the vocational preparation for a much larger portion of the school population than they are now accommodating." (p. 193) Part III offers 23 legislative recommendations (including the formation of a Department of Education and Manpower Development at the Cabinet level), and 3 administrative recommendations directed to the Commissioner of Education (including the establishing of a Learning Corps).

138. U.S. Congress. Senate Committee on Labor and Public Welfare, Special Subcommittee on Indian Education. Indian Education: A National Tragedy--A National Challenge. Washington: USGPO, November 1969. 220 pp. $1.00.

The work of the Subcommittee, chaired by Senator Edward Kennedy, fills 4,077 pages in seven volumes of hearings and 450 pages in five volumes of committee prints. This report is a condensation, concluding with 60 recommendations for action. "We are shocked at what we discovered . . . We have concluded that our national policies for educating American Indians are a failure of major proportions. They have not offered Indian children--either in years past or today--an educational opportunity anywhere near equal to that offered the great bulk of American children." (p. xi)

c. Higher Education

139. The Report of the President's Commission on Campus Unrest. Including Special Reports: The Killings at Jackson State; The Kent State Tragedy. N.Y.: Arno, 1970. 529 pp. $5.95. (Report also appearing in The Chronicle of Higher Education, V:2, October 5, 1970, pp. 2-24.)

The Scranton Commission report on "a crisis of violence and understanding," finding that most student protesters are neither violent nor extremist. Many recommendations for law enforcement, the President, government, the university, and students.

140. American Academy of Arts and Sciences, Assembly on University Goals and Governance. A First Report of the Assembly on University Goals and Governance. Boston: AAAS (280 Newton Street), 1971. Reprinted in The Chronicle of Higher Education, V:15, January 18, 1971.

A blue ribbon panel headed by Martin Meyerson, listing 85 theses to stimulate academic reforms in all areas of higher education, and nine themes pervading the report: learning as the central mission, institutional self-knowledge as a basis for educational reform, extending choice in admissions and attendance, experimentation and flexibility in undergraduate and graduate education, diversification and differentiation, preserving the private and public systems, enhancing the professoriate by broadening the basis of recruitment, governance by delegation and accountability, and inventing new procedures and institutional forms to make co-operation and self-help more of a reality.

141. Carnegie Commission on Higher Education
--General Information pamphlet available from The Commission, 1947 Center St., Berkeley, Calif. 94704

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--All publications may be ordered from McGraw-Hill Book Co., Hightstown, N.J. 08520

A monumental endeavor, headed by Clark Kerr, concerned with the functions, structure, and governance of higher education, innovation and change, demand and expenditures, available resources, and effective use of resources. 67 special studies have been commissioned, and special reports "of urgent public interest" have appeared since December 1968. The final report of the commission is due in June 1972.

SPECIAL REPORTS

- Quality and Equality: New Levels of Federal Responsibility for Higher Education. (December 1968, 54 pp.) Supplement with Revised Recommendations. (June 1970. $1.00)
- A Chance to Learn: An Action Agenda for Equal Opportunity in Higher Education. (March 1970. 29 pp. $1.00)
- The Open-Door Colleges: Policies for the Community Colleges. (June 1970. $1.00)
- Higher Education and the Nation's Health: Policies for Medical and Dental Schools. (October 1970. 128 pp. $2.95)
- Less Time, More Options: Education Beyond the High School. (December 1970)
- From Isolation to Mainstream: Problems of the Colleges Founded for Negroes. (February 1971, 81 pp.)

(Among topics currently under consideration for future reports are relationships between civic government and colleges and universities, the campus and the city, and new educational technology.)

SELECTED SPECIAL STUDIES

- Earl F. Cheit, The New Depression in Higher Education. December 1970. 250 pp. (price n.a.) Examines 41 private and public colleges and universities, finding 70% of them either "in financial difficulty" or "headed for trouble."

- Irwin T. Sanders and Jennifer C. Ward, Bridges to Understanding: International Programs of American Colleges and Universities. December 1970. $7.95. Finds international studies still largely underdeveloped and present levels of activity in serious jeopardy.

- Lewis B. Mayhew, Graduate and Professional Education, 1980: A Survey of Institutional Plans. August 1970. $3.95.

- Heinz Eulau and Harold Quinley, State Officials and Higher Education: A Survey of the Opinions and Expectations of Policy-Makers in Nine States. March 1970. $5.95.

(About a dozen others have been published as of February 1971. Also, see Ladd, Item 112.)

142. President's Task Force on Higher Education. Priorities in Higher Education. Washington: USGPO, 1970. 30 cents. (Recommendations published in The Chronicle of Higher Education, October 19, 1970, pp. 3-4.)

Chaired by James M. Hester, the Task Force makes recommendations on financial aid for disadvantaged students, Negro colleges, support for health-care professional education, increased tax incentives for support to higher education, the expansion of opportunities for post-high-school education, the

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support of high-quality graduate and professional education, clarification of institutional purposes, improvement in the quality of the curriculum and methods of teaching and learning, clarification of institutional governance, and establishing a National Academy of Higher Education modeled after the National Academy of Sciences.

143. The President's Committee on Education Beyond the High School. Second Report to the President. Washington: USGPO, July 1957. 114 pp.

Originally intended as an interim report similar to the first one (November 1956), funds were cut off and this report serves as a final statement. There are a number of recommendations concerning inputs: the need for teachers, assistance to students, expansion and diversity of educational opportunities, and financing higher education; but there is no concern for the quality of educational services as there is at present. However, there are two remarkable insights that are still relevant for contemporary policy-making: the recognition of peripheral education in corporations, the military, etc., such that "we have become a 'society of students'" (p. 1), and the emphasis on the neglected federal role in collecting information. "We have been struck above all else by the astounding lack of accurate, consistent, and up-to-date facts, and by how little this Nation knows about its enormously vital and expensive educational enterprise in contrast to how much it knows, in great detail, about agriculture, industry, labor, banking and other areas." (p. 15) Indeed!

144. Commission on Post-Secondary Education in Ontario. Post-Secondary Education in Ontario: A Statement of Issues. Toronto: Ontario Department of Education (44 Eglinton Avenue West), 1970. 20 pp. Free.

An interim statement by the Wright Commission, briefly outlining issues such as expected number of students, institutional characteristics, costs, the economic argument for education, the manpower argument for education, certification, education and social justice, the example of the U.S., measurements, technology, structural problems, students' share of cost, etc. An excellent overview of essential questions.

145. National Science Foundation. Toward A Public Policy for Graduate Education in the Sciences. Report of the National Science Board. Washington: USGPO, NSB 69-1, 1969. 63 pp. 40 cents.

Primarily addressed to graduate education and research in the natural sciences, the social sciences, and engineering, many of the conclusions of the report are nevertheless applicable to the arts and humanities. Graduate education is seen as having developed without an explicit national policy, and in that enrollments are expected to double and costs quadruple by 1980, substantial federal funding is seen as necessary. Recommendations are made to educational institutions, state and regional planners, and the federal government. "These recommendations are made in the firm conviction that no instrumentality of society can contribute more importantly to the future strength and well-being of the Nation and its citizens than does graduate education." (p. xii) Perhaps.

146. National Science Foundation. Graduate Education: Parameters for Public Policy. Report prepared for the National Science Board. Washington: USGPO, NSB 69-2, 1969. 168 pp. $1.25.

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"Presents the statistical evidence, forward projections, analyses, and interpretations which underlie the conclusions and recommendations offered in the First Report . . . However, this is much more than an Appendix . . . It is both a unique analysis of the present status of graduate education and the source of a large body of information and useful correlations which should be invaluable to rational planning for graduate education and indeed for all of higher education." (p. iii) The three chapters cover dimensions of graduate education (no. institutions, distribution of enrollment), correlates of quality (high quality found largely in large institutions and large departments), and financial perspectives. Many public policy issues are raised, such as creating new institutions vs. expanding existing ones, geographic priorities, offsetting a possible decline in quality during the next decade, etc.

147. STEINHART, John S. and Stacie CHERNIACK. The Universities and Environmental Quality--Commitment to Problem Focused Education. A Report to the President's Environmental Quality Council. Washington: Executive Office of the President, Office of Science and Technology, September 1969. 71 pp. 70 cents.

A report on several multidisciplinary environmental programs. Despite some promising starts, there is still a severe shortage of ecology professionals, and the report suggests actions that the federal government can take, such as assisting in the formulation at colleges and universities of Schools of the Human Environment.

2. Other Prescriptions

a. General

148. PLATT, John. "What We Must Do," Science, 166: November 28, 1969, pp. 1115-1121.

A concise and powerful overview of the multiple crises that we are confronting, with the view that "it has now become urgent for us to mobilize all our intelligence to solve these problems if we are to keep from killing ourselves in the next few years." Two overview charts are provided (for the U.S. and the World), indicating the priority of problem areas and the estimated time to crisis, broken down in three future periods (1-5 years, 5-20 years, and 20-50 years). For the U.S. the problem areas, in order of priority, are total annihilation, great destruction or change (physical, biological or political), widespread almost unbearable tension (slums, race conflict), large-scale distress (transportation, urban blight, crime), tension producing responsive change (water supply, privacy, drugs, marine resources), other problems important but adequately researched (military R&D, new educational methods), exaggerated dangers and hopes (mind control, heart transplants), and non-crisis problems being overstudied (man in space and most basic science). It is concluded that "The task is clear. The task is huge. The time is horribly short. In the past, we have had science for intellectual pleasure, and science for the control of nature. We have had science for war. But today, the whole human experiment may hang on the the question of how fast we now press the development of science for survival."

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Although this is one man's list of priorities, it is critically important that more thinking be generated along these lines. Although education is not directly mentioned in this article, the implications should be obvious.

149. GARDNER, John. Self-Renewal: The Individual and the Innovative Society. N.Y.: Harper & Row, 1963. 141 pp.

A lucid and powerful essay advoacting "The Ever-Renewing System" and "Educating for Renewal."

150. USDAN, Michael D., David W. MINAR, and Emanuel HURWITZ, Jr. Education and State Politics: The Developing Relationship Between Elementary-Secondary and Higher Education. N.Y.: Columbia University, Teachers College Press, 1969. 190 pp.

An excellent although preliminary attempt to analyze statewide coordination as of summer 1967, based on the experience of 12 states (California, Florida, Georgia, Illinois, Indiana, Massachusetts, Michigan, New Jersey, New York, Ohio, Pennsylvania, and Texas).

The two general findings are that in most states the interlevel relationship verges on open political conflict; yet, "state policy-makers seldom recognize the relationship as something worthy of attention. They have been content, in the general style of American politics, to take problems piece-by-piece, confronting them only when necessary and then in as small portions as possible. The point, however, is that as the pressures rise and conflict grows, the probability of problems being handled successfully on this basis declines. The financial crisis of American education requires massive, broad scale consideration." (p. 188)

"On the whole, we have been pushed toward the conclusion that interlevel coordination in education is a desirable, if not essential, step. Such coordination need not be and indeed would not be likely to be tight and neat. But without some effort to bring the forces of education together into some form of integrated structure, the ability of the states to undertake rational planning in education is bound to suffer." (p. 187)

151. EURICH, Alvin C. Reforming American Education: The Innovative Approach to Improving Our Schools and Colleges. N.Y.: Harper & Row, 1969. 269 pp. $6.50.

"Education must be vastly improved to meet the challenges of the present and the future; the innovative approach is the most promising strategy for bringing about such improvement." Taking a wide-angle view, the author discusses rigid dogmas, the necessity for bold public policies, provocative new developments, new patterns of reform at all levels, and education as a futurist enterprise. An updated scenario (see Item 103),"A Twenty-First Century View of American Higher Education," (pp. 175-199), touches on university cities, sea-grant colleges on floating ocean cities, the revival of philosophy and the humanities to deal with spiritual malaise, learning terminals with graphic tables and multi-purpose TV type displays, computerized learning, internationalization, individualization, etc.

152. ROGERS, Carl R. Freedom to Learn: A View of What Education Might Become. Columbus, Ohio: Charles E. Merrill Publishing Co., 1969. 358 pp.

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An eminent psychologist feels that "all teachers and educators prefer to facilitate experiential and meaningful learning, rather than the nonsense syllable type. Yet in the vast majority of our schools, at all educational levels, we are locked into a traditional and conventional approach which makes significant learning improbable if not impossible . . . It is not because of any inner depravity that educators follow such a self-defeating system. It is quite literally because they do not know any feasible alternative." (p. 5) Alternatives are suggested toward building "a fully functioning person" and a plan for self-directed change in an educating system is proposed. Although the comments are directed at all levels, a special chapter is devoted to "A Revolutionary Program for Graduate Education," in that the graduate level "is frequently the furthest behind the main stream of our culture and is the least educational in any true sense." (p. 189)

153. TAYLOR, Harold. The World as Teacher. N.Y.: Doubleday, 1969. 322 pp. $6.95.

The result of a two-year study of the education of American teachers in world affairs. Proposes a wide array of reforms, to make education more relevant to the emerging world society.

154. GATTEGNO, Caleb. Towards a Visual Culture: Educating Through Television. N.Y.: Outerbridge & Dienstfrey, 1969. 117 pp. $4.95.

A serious essay of McLuhanesque proportions on the potentials of television in education: "a call to use television for what it can give, which is really tremendous and by most still unsuspected." (p. 4) ". . . only recently, through television, has (man) been able to shift from the clumsiness of speech . . . to the power of the dynamic, infinite visual expression . . . we can foresee the coming of an era where . . . we shall be able to share vast conscious experiences at once . . . The future is requiring that we learn to consider ever larger wholes in whatever social position we find ourselves . . . a visual culture is the answer to such a trend . . . sight is far swifter means of experiencing and communicating than speech." (p. 5)

155. GANS, Herbert J. "The Mass Media as an Educational Institution," Center for Urban Education, The Urban Review, 2:1, February 1967.

A challenging discussion of policy implications based on the premise that "both the school and the mass media are, in the broadest sense, political institutions competing for cultural power in the society." Because of "the media's demonstrated ability at engaging a child's interest and holding his attention more adequately than the school," it is suggested that "perhaps school learning should not be a compulsory process" and the school should become more audience oriented. "The School's conception of the child, which developed in an era in which there was no democracy or equality for children . . . needs to be replaced." The conception of the teacher as a professional with a monopoly of knowledge "is no longer applicable in an era when the mass media have informed both children and parents."

156. ILLICH, Ivan. De-Schooling Society. N.Y.: Harper & Row, World Perspective Series, April 1971.

Two preview articles in the New York Review of Books ("Schooling: The Ritual of Progress," December 3, 1970, pp. 20-26; "Education Without School:

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How It Can Be Done," January 7, 1971, pp. 25-31) suggest that this may be the most important and controversial book of 1971. In the first article, Illich summarizes much of the thinking that appears in his collection of essays Celebration of Awareness: A Call for Institutional Revolution. (Doubleday, 1970. 189 pp. $5.95.) He views the entire schooling system as the modern equivalent of the church, and attacks the multitude of myths that inhibit learning and equal opportunity. In the second article he outlines a thorough alternative involving reference services to educational objects, skill exchanges, peer matching, and reference services to educators at large who would be chosen by polling or consulting former clients. By doing so, "we can depend on self-motivated learning instead of employing teachers to bribe or compel the student . . . we can provide the learner with new links to the world instead of continuing to funnel all educational programs through the teacher." (p. 25) A thorough de-schooling of society is considered to be at the root of any movement for human liberation. Recent essays by Illich also appear in CIDOC Cuaderno (see below). Especially see No. 1007, 1970. ($4.00 for single copy)

157. REIMER, Everett. An Essay on Alternatives in Education. Cuernavaca, Mexico: Centro Intercultural de Documentacion (Apdo. 479), CIDOC Cuaderno No. 1005, 1970. 93 pp. To be published in Interchange (see Item 192), 2:1, along with six responding articles.

Reimer is a colleague of Illich who thinks along similar lines. It is not clear (and probably not important) as to who has originated what idea, for, as explained in the introduction to this essay, Reimer and Illich have been conversing for almost 15 years since meeting in Puerto Rico. Paolo Friere, Paul Goodman, and others have also contributed to this body of thought.

In this comprehensive essay, Reimer views school as "the universal church of the technological society" and sees the formation of a universal international curriculum. Yet, "The conclusion is inescapable: no country in the world can afford the education its people demand in the form of schools." Even in the U.S., where the richest one-tenth of the population gets ten times as much public funds for education as the poorest one-tenth, it is estimated that an additional $80 billion would be required to fully meet educational demands. Given the growing importance of schooling benefits, it is inevitable that the rich outdistance the poor both within and between nations, unless they grow in charity faster than they grow in privilege. "Since there is no precedent for such behavior, it seems wiser to turn to the other alternative, namely, not to separate education from activities which provide for more basic needs." It is also considered essential that learning resources be allocated outside the school system (as the only means of attaining equity), and that control of these resources should be in the hands of persons seeking to learn.

Schools will not be abandoned, but are seen as only one way of organizing the resources required for learning (time, space, objects, and people). A system of lifetime educational accounts is advocated (not unlike the voucher system), in addition to four laws that would effectively disestablish the school system as an educational monopoly: a law separating school and state (similar to the first amendment of the U.S. Constitution), a law forbidding favoritism based on schooling ("Where and how one has been schooled is as irrelevant to one's capacity to do a job as race or religion"), a law requiring equal sharing of public educational resources, and an effective extension of anti-monopoly laws to the field of education.

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This fundamentally new dimension may significantly change the nature of our ongoing national debate over education for many years to come.

158. FREIRE, Paolo. The Pedagogy of the Oppressed. N.Y.: Herder & Herder, November 1970. $5.95.

A Brazilian educator argues that "every human being, no matter how 'ignorant' or submerged in the 'culture of silence,' is capable of looking critically at the world in a dialogical encounter with others, of perceiving his personal and social reality, and of dealing critically with it."

159. FARBER, Jerry. The Student as Nigger: Essays and Stories. N.Y.: Contact Books, August 1969; Pocket Books, September 1970. 142 pp. 95 cents.

The pungent title essay of this policy manual for institutional clients is already an underground classic, having appeared (by Farber's estimate) in about 500 publications. But far more is offered here. "The Student and Society: An Annotated Manifesto" begins with the assertion that "School is where you let the dying society put its trip on you . . . it's not what you're taught that does the harm but how you're taught. Our schools teach you by pushing you around, by stealing your will and your sense of power . . . Students can change things if they want to because they have the power to say 'no'." (p. 17)

In "The Four-Fold Path to Student Liberation," Farber advocates The Way of Direct Action (non-violent), The Way of the Provo (not always practical but always aesthetic), The Way of the Square (student government) and The Way of the Self ("When people stop playing 'student,' they will be able to learn without surrendering themselves in exchange.") Also see "A Young Person's Guide to the Grading System" and a brilliant satire of academic behaviorists: "Teaching Johnny to Walk: An Ambulation Instruction Program for the Normal Preschool Child."

Whether or not one is sympathetic, educators should recognize that volumes such as this are increasingly influential in shaping educational policy.

b. Elementary and Secondary

160. BERMAN, Louise M. New Priorities in the Curriculum. Columbus, Ohio: Charles E. Merrill Publishing Co., 1968. 241 pp. Bib., pp. 197-238.

A well-researched proposal "to open up the possibility of the development of process-oriented persons within our schools." Each chapter discusses a process and the need for it: perceiving, communicating, loving, decision-making, knowing, organizing, creating, and valuing. Bibliography of about 600 items.

161. KOHL, Herbert R. The Open Classroom: A Practical Guide to a New Way of Teaching. N.Y.: New York Review/Vintage, 1969. 116 pp. $1.65.

"This book is a handbook for teachers who want to work in an open environment . . . It is important not to equate an open classroom with a 'permissive' environment." (p. 15) Kohl explains alternatives to textbooks and the domination of the teacher, learning from the experience of the students, establishing rules and routines only as necessary for a particular

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class, discipline, and how a teacher can survive in an oppressive bureaucracy while maintaining an open and exciting classroom treating students as people. It is contended that these principles of non-authoritarian education are applicable to all fields of learning.

162. UMANS, Shelley. The Management of Education: A Systematic Design for Educational Revolution. Garden City: Doubleday, 1970. 226 pp. $5.95.

The Director of the Center for Innovation of the New York City Board of Education discusses PPBS, change models, educational programs of industry and government, and various trends in electronic media. Advocates a new educational system, "incorporating only those elements of education that have proven to be important." (p.23) The "Blueprint for the Future" envisions the total community as the school, with the school building of today just one small station, along with educational environment centers (neighborhood facilities offering a full range of services for all people at all times), satellite development centers, block schools, skills centers, and the "'No School' School."

163. Sudbury Valley School. The Crisis in American Education: An Analysis and A Proposal. Framingham, Mass.: The Sudbury Valley School Press (Winch Street), 1970. 109 pp. $1.50.

"This book presents the action and thought which brought forth The Sudbury Valley School, and will bring forth other schools like it throughout the country." A bold new solution is proposed to overcome "Our Un-American Schools: . . . for education in America today, the grand strategy must be to make the schools the embodiment of the American Dream for young and old alike--to make the schools bastions of Individual Rights, Political Democracy, and Equal Opportunity for all people and for all time." (p. 45) The Sudbury Valley School opened in July 1968 as a day school for students aged four years and up . . . "a prototype democratic school for all to see and to study." The second step in the tactic of change is to establish satellite public schools, culminating finally in public schools with public support.

164. GROSS, Ronald and Beatrice (eds.). Radical School Reform. N.Y.: Simon and Schuster, 1969. 350 pp. $7.95.

A wide-ranging anthology of 23 articles. "Radical means going to the root, posing the fundamental problems, and responding with theories and practices which are genuine alternatives to present theory and practice . . . radical means unorthodox ways of promoting learning that fall outside the scope of conventional or even innovative school practice. This book reflects the entire range of radical thought and practice, from the grand demand that compulsory public education be repealed and the formal educational system dismantled to reports of intensely practical teachers working constructively within the existing situation but nevertheless using truly unorthodox teaching techniques." (p. 14)

Especially see: Kenneth B. Clark, "Alternative Public School Systems," (reprinted from Harvard Educational Review, Winter 1968) which discusses regional state schools, federal regional schools, college and university-related open schools, industrial demonstration schools, labor union sponsored schools, and army schools.

165. GOODLAD, John I., M. Frances KLEIN, and Associates. Behind the Classroom Door. Worthington, Ohio: Charles A. Jones Publishing Co., 1970. 116 pp. $2.75 paper.

Based on the organizational, curricular, and instructional thrusts which have been widely recommended and which one "might reasonably expect to be substantially implemented," the authors studied 150 classrooms in 67 schools and found that all of the changes recommended over the past 15 years "were blunted on school and classroom door." They also found a universal sameness, "a considerable discrepancy between teachers' perceptions of their own innovative behavior and the perceptions of observers," supplementary and enrichment activities differing little from regular activities, non-identified goals in the classroom and the school as a whole, and school personnel appearing to be very much alone in their endeavors.

"Perhaps the most telling observation about our educational system is that there is not, below the level of intense criticism and endless recommendations for improvement, any effective structure by means of which countervailing ideas and models may be pumped in and developed to the point of becoming real alternatives. Stated conversely, the system is geared to self-preservation, not to self-renewal." (p. 99)

166. SILBERMAN, Charles E. Crisis in the Classroom: The Remaking of American Education. N.Y.: Random House, Fall 1970. 525 pp. $10.00.

Based on a three and one-half year study commissioned by the Carnegie Corporation, this broad indictment of all levels of education is based on a thorough review of the literature, extensive interviews and correspondence with educators and critics, and first hand investigation in more than 100 schools by the author and in about 150 more schools by his three-member staff.

Silberman finds the schools to be "intolerable," severely afflicted by "mindlessness," operating on the assumption of distrust, offering a banal and trivial curriculum, and preoccupied with order and control (which in turn creates discipline problems, rather than eliminating them). More than 200 examples of school practice are provided in support of these charges, which are no less severe than those made by the so-called "romantic" critics of the past decade.

Based on an analysis of the superiority of English primary schools, "informal education" (also known as free schools, open learning systems, etc.) is strongly advocated.

167. GLASSER, William, M.D. Schools Without Failure. N.Y.: Harper & Row, 1969. 235 pp. $4.95.

A psychiatrist sees the schools as largely failure-oriented which is "the most impractical result of education." By failing to satisfy the basic needs of love and attaining self-worth, the author estimates, from his experience in the central city of Los Angeles, "that 75 percent of the children do not achieve a satisfactory elementary education." Parents do not complain because "they cannot compare their children's failure with a successful school experience of their own . . ." (p.113)

Based on the principles of his previous book, Reality Therapy, Glasser makes many proposals that he has employed successfully: class meetings,

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reasonable rules, student conversations with adults, inviting graduates back to talk with students, abolishing grading, giving recognition to students with bad records when they start to do well, and using failing students to tutor younger failing students. Although oriented primarily toward elementary education because it is considered most important, the ideas in the book are applicable to all levels. Especially see Chapter 5 on Relevance, the attack on Fact and Memory Education in Chapter 6, and Chapter 13 on Morality (or the need to learn and experience the value of truthfulness, which is often discouraged by schools). A simply-written, sensitive, and gentle book encouraging profound and humane reform.

168. FANTINI, Mario, Marilyn GITTELL, and Richard MAGAT. Community Control and the Urban School. Introduction by Kenneth B. Clark. N.Y.: Praeger, July 1970. 288 pp. $7.95; $2.95 paper.

"A comprehensive study of the participation issue in urban public schools. Tracing the development of public education and the bureaucratization of school systems since the 1900's, the authors examine where and for whom the attempt to provide universal education failed. They offer a persuasive case for community control as a means of achieving the participation they consider to be an intrinsic part of the education process." (advt.)

169. FANTINI, Mario D. and Milton A. YOUNG. Designing Education for Tomorrow's Cities. N.Y.: Holt, Rinehart and Winston, 1970. 160 pp.

Present educational systems are found to be outmoded and inadequately structured (has anyone yet to find them adequate?), and, as a suggestion for strategies of major reform, the authors use the development of the Fort Lincoln New Town school system in Washington, D.C. as a case study.

170. HAVIGHURST, Robert J., Frank L. SMITH, Jr., and David E. WILDER. A Profile of the Large City High School. Washington: National Association of Secondary School Principals, 1970.

A study of 700 high schools in 45 cities with more than 300,000 population, recommending new approaches such as a single experimental high school at a central location, temporary shifting of faculty to provide more racial integration and distribution of experience, allowing students to divide attendance among two or more schools, employing an open attendance rule allowing inner-city students to enroll in comprehensive or middle-class schools, and constructing one or more large high schools in a kind of educational park enabling greater diversity of students.

171. FISH, Kenneth L. Conflict and Dissent in the High School: An On the Scene Analysis. N.Y.: Bruce Publishing Co., 1970. $6.95.

"A comprehensive, nationwide study of student unrest by a high school principal for the National Association of Secondary Schools under a grant from the Ford Foundation. A first hand report on why eruptions occur with recommended action for the future." (advt.)

172. Syracuse University Research Corporation, Policy Institute. Disruption in Urban Public Secondary Schools. Syracuse: SURC Policy Institute (723 University Ave.), August 1970. 61 pp. + Appendices. (Prepared for USOE).

A broad survey of the literature combined with 27 on-site visits and 683 usable questionnaires. Of the urban high schools surveyed, 85% experienced some type of disruption during the last three years, and disruptions were found to be more frequent in racially integrated schools. The traditional punitive methods of dealing with disruptions (expulsion, arrest, in-school detention, etc.) are seen as often producing counter-productive results. Many remedies are proposed, including overcoming bigness, recruiting and promoting black personnel, special schools for disruptive students, utilizing young adult security personnel, etc.

173. WESTIN, Allen F. et. al. Civic Education in a Crisis Age: An Alternative to Repression and Revolution. N.Y.: Columbia University, Center for Research and Education in American Liberties, September 1970. 27 pp.

Finds that a large majority of nearly 7000 junior and senior high school students surveyed feel they are regularly subjected to undemocratic decisions, and proposes ten objectives for civic education.

174. Montgomery County (Md.) Student Alliance. "A Study Report of the Montgomery County Public School System. Wanted: A Humane Education. An Urgent Call for Reconciliation Between Rhetoric and Reality," in Diane Divoky (ed.) How Old Will You Be in 1984? Expressions of Student Outrage From the High School Free Press. N.Y.: Discus Avon, 1969. $1.25 paper.

The 250 selections from the underground press in the Divoky volume are of some interest, but the "Study Report" (pp. 329-350) is extremely well done and compares favorably (in its maturity and insight) with many if not all of the other "adult" reports cited here. The county public schools are attacked for basing the system on fear, dishonesty, distruction of eagerness to learn, causing alienation, demanding blind obediance to authority, stifling self-expression, narrow scope of ideas, prejudice, and instilling self-hate. "The extent to which school officials appear unaware or unconcerned about how students feel and the effects of the schools is frightening and disturbing." (p. 334) 24 recommendations are made, including an ombudsmen, an end to secret files, student input in teacher evaluations, eliminating letter grades, a free press, shorter and more flexible learning modules, relevant courses, informing students of their rights, a student voice on the school board, etc.

175. BLISHEN, Edward (ed.). The School That I'd Like. Middlesex, England: Penguin Books, 1969. 171 pp.

A charming collection of astute comments by English children, ages 11-18, based on a competition conducted by The Observer in December 1967. Blishen concludes that: "Standing out above everything else is the children's desire to teach themselves, rather than to be the passive targets of teaching: a great restlessness about classrooms, timetables, the immemorial and so often inert routine of schools. The Children seem to sense what their

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elders are slow to sense, that you enter the world of the late twentieth century ill-armed if all you have done is to submit, to some degree or other, to a pre-determined, pinched, examination-harried course of instruction, from which in its nature most of the excitement and surprise of learning is excluded . . .

"The evidence of all this writing is that our children are immensely anxious to be reasonable, to take account of practical difficulties. Some of these entries were dullish or dulled, but there was very little in them that was foolish. I can't imagine any educationist anxious to learn from what the children say who would not emerge from this book with his head full of perfectly firm and very sensible ideas." (pp. 13-14)

Quite so, and one would hope to see many American counterparts of this volume, to supplement critiques provided in underground newspapers.

176. POSTMAN, Neil. "Once Upon a Time--A Fable of Student Power," The New York Times Magazine, June 14, 1970. pp. 10-11.

Although brief, this delightful scenario describes a very clear alternative to schooling that was put into effect during an officially declared state of emergency in New York City. The Emergency Education Committee developed a curriculum for all children in the 7th-12th grades, known as Operation Survival, obliging them to clean up neighborhoods, beautify the city, direct traffic (freeing the police to fight crime), deliver mail, publish neighborhood newspapers, assist in hospitals, register voters, substitute for certain adults whose jobs the students could perform without injury or loss of efficiency (thus freeing the adults to attend school or assist students in saving the city) and, with the aide of college students, conducting an auxiliary public transportation system (thereby reducing auto traffic). Consequently, young people assumed a proprietary interest in their environment and came to be respected by the old, leading to a revival of courtesy and a decrease in crime. "Amazingly, most of the students found that while they did not 'receive' an education, they were able to create a quite adequate one." Difficulties developed, however, from teachers who felt their training to be wasted, and the inability to tell dumb children from smart children due to the cessation of testing. "But the Mayor . . . promised that as soon as the emergency was over everything would be restored to normal. Meanwhile, everybody lived happily ever after--in a state of emergency, but quite able to cope with it."

177. Center for the Study of Public Policy. Education Vouchers: A Preliminary Report on Financing Education by Payments to Parents. Cambridge, Mass.: The Center (56 Boylston Street), March 1970. 219 pp.

A report of the first phase of research contracted by USOE which explores the following areas: determining the value of vouchers and the restrictions (if any) on private supplementation, insuring adequate information for intelligent choices by parents, procedures for allocating scarce places, education vouchers compared with state "purchase of services" from private schools, and the relationship of vouchers to racial segregation and the First Amendment prohibition against establishment of religion. The second phase of this important research will demonstrate the feasibility of an experimental project.

178. COONS, John E., William H. CLUNE III, and Stephen D. SUGARMAN. Private Wealth and Public Education. Cambridge: Belknap Press of Harvard University, 1970. 520 pp. $12.50.

Three lawyers thoroughly analyze discrimination by wealth in state systems of school finance and American value systems in general, proposing a plan of "power equalizing" based on manipulation of state and local taxes. The primary hope for change is through court actions. For the latest proposals, see John Coons and Stephen B. Sugarman, The Family Choice in Education Act: A Heuristic Model for State Education. Berkeley: Institute for Governmental Studies, Spring 1971. Approx. $1.50. (Also to appear in California Law Review, May 1971). For parallel proposals in higher education, see following item.

179. "Learn Now, Pay Later," The New Republic, February 20, 1971. pp. 12-13.

A brief report on the Pay as You Earn (PAYE) plan proposed by Yale University, which might alleviate the financial problems of higher education by removing much of the cost burden from taxpayers and placing it on the beneficiaries. Any student would be able to borrow money, and repayment would be over a period of about 35 years at an amount dependent on the level of income; thus, students in high-paying fields of work would repay more than they borrowed, while those making less would repay less. If the Yale pilot idea is successful, the scheme may be tried nationally, with a resource bank similar to FHA, and loan repayments incorporated in federal income tax and payroll withholding.

The genesis of the Yale plan is not known; however the idea has appeared in at least three recent instances:

--William J. PLATT and Janet ABRAMS, A Self-Financing Fund for Student Charges in Higher Education, Educational Policy Research Center at Stanford, Research Note EPRC-6747-7, October 1968. 22 pp.

--James TOBIN and Leonard ROSS, "A National Youth Endowment: Paying for the High Costs of Education," The New Republic, May 3, 1969. pp. 18-21.

--Michael CLURMAN, "How Shall We Finance Higher Education?," The Public Interest, No. 19, Spring 1970. pp. 98-110.

The PAYE plan is intended to promote equality of opportunity, similar to voucher proposals for elementary and secondary education.

c. Higher Education

180. ZWEIG, Michael. The Idea of a World University. Edited with a foreward by Harold Taylor. Carbondale: Southern Illinois University Press, 1967. 204 pp.

A thorough exploration of a recurring idea for an institution "which would match on an intellectual scale what the United Nations was designed to accomplish in a political dimension . . . a rough estimate would be that since the end of World War I, more than one thousand such proposals have

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been made." (Taylor in Foreward, pp. v-vi). Zweig explores the needs, alternatives (international exchanges, area study programs, etc.), the history of the proposal, and what should be done.

181. WOLFF, Robert Paul. The Ideal of the University. Boston: Beacon Press, 1969. 161 pp. $5.95.

A well-written essay responding to the events at Columbia and attempting to develop a program of practical reform of present-day institutions, based on the view that "the competition for scarce places at top colleges corrupts the secondary school education, and even corrodes primary education as well." After a discussion of 4 models (the university as A Sanctuary of Scholarship, A Training Camp for the Professions, A Social Service Station, and An Assembly Line for Establishment Man), the final chapter proposes that "performance in high school must be made irrelevant to college admission and college performance must be made irrelevant to graduate and professional admission." (p. 142) Degrees would be abolished, including the Ph.D. and its questionable "contribution-to-knowledge" requirement, in turn freeing students for truly meaningful work. Professional training would be an alternative to undergraduate education, rather than a linear sequel to it, and undergraduate admissions would be by lot among those attaining some minimum performance.

182. LAWRENCE, Ben, George WEATHERSBY, and Virginia W. PATTERSON (eds.). Outputs of Higher Education: Their Identification, Measurement, and Evaluation. Papers from a seminar held at Washington, D.C., May 3-5, 1970, conducted by the Western Interstate Commission for Higher Education in cooperation with the American Council on Education and the Center for Research and Development in Higher Education at Berkeley. Boulder, Colorado: WICHE, July 1970. 130 pp. $3.50.

10 important essays examining purposes, priorities, responsibilities and capabilities of higher education, under the rationale that "Educational decision-makers are seeking honest, viable responses to the issues of public accountability, flagging financial support, and an earlier overreaction to short-term need. They are seeking forthright approaches to the polarization of opinion about the role of the university in a free society ordered by law." (p. 7) Bibliography of about 200 items in three categories: output variables and models for their analysis; goals and/or psycho-social effects of education on its constituencies; and educational costs.

183. AXELROD, Joseph, et. al. Search for Relevance: The Campus in Crisis. San Francisco: Jossey-Bass, 1969. 244 pp. Bib., pp. 212-237.

Tying together Nevitt Sanford's theory of student development, old ideals, and present student protest, four "total design" models are proposed: a cluster college on the campus of an urban college or university, a B.A. program in Future Studies, a community college, and an Experimental Freshman Year Program. Bibliography of about 400 items.

184. The Committee on the Student in Higher Education. The Student in Higher Education. New Haven, Conn.: The Hazen Foundation, January 1968. 66 pp.

"This report was written to bring attention to the possibility of developmental higher education . . . These recommendations call for a major qualitative change in planning for the future of higher education. The Committee has no quarrel with the computer experts, the technical planners, and the budgetary wizards who are telling us how many students, teachers, and classrooms we will need by 1980 . . . but it is not enough, for they are not concerned with the character of education. It takes another kind of planner to consider and envision the quality of human relationships in the college environment." (p. 57) Many recommendations such as the whole freshman year as an orientation to learning, a reduction of competition, a proliferation of experimentation, a reforming of physical structures, etc. Clearly written with a humane concern.

185. GAFF, Jerry G. and Associates. The Cluster College: Innovations and Consequences. San Francisco: Jossey-Bass, 1970. $8.50.

"Provides the first systematic study of the cluster college, a collegiate model which permits schools to preserve the best features of both the small college and the large university. The authors describe and analyze the purposes and practices of these schools, illuminating such details as the utility of the cluster concept, the various methods of accommodating cluster colleges in different universities, the innovations in curriculum, grading, instruction, governance, and residence requirements." (advt.)

186. PATTERSON, Franklin and Charles R. LONGSWORTH. The Making of a College: Plans for a New Departure in Higher Education. Hampshire College, Working Paper No. 1. Cambridge: MIT Press, 1966. 364 pp. $4.95 paper.

Planning papers for a new liberal arts college in South Amherst, Massachusetts, which "defines an organized vision of liberal education for a new era . . . to help its students learn to live their adult lives fully and well in a society of intense change, immense opportunity, and great hazards."

E. FOR STUDENTS OF THE FUTURE

1. Journals

187. Futures. The Journal of Forecasting and Planning. Guildford, Surrey, England: Iliffe Science and Technology Publications, Ltd. (32 High Street). $22.50 annually. (U.S. subscribers may order through Iliffe-NTP, Inc., 300 E. 42nd Street, New York, New York 10017).

Published quarterly since September 1968, quite valuable but overpriced. "Contains articles and original papers on the probable and possible long-term trends in science, techology, economics, politics, and social conditions, and on the means by which desirable goals may be selected and achieved." (Journal masthead) A serious publication with an international focus.

188. The Futurist. A Journal of Forecasts, Trends and Ideas About the Future. Washington: World Future Society (P.O. Box 19285, Twentieth Station, Washington, D.C. 20036). $7.50 annually.

Published bi-monthly since February 1967 and improving with each issue since its original inception as "A Newsletter for Tomorrow's World." Includes a variety of short articles, book reviews, speech extracts, as well as a member's book service offering a 10% discount on a list of about 60 books, most of them worthwhile. For an additional $10.00 per year, the WFS Supplemental Program offers current news on who is doing or writing what, and abstracts of recently published books. The first General Assembly of the World Future Society will be held May 11-14, 1971.

189. Technological Forecasting: An International Journal.

Published quarterly since Spring 1969 by American Elsevier Publications (52 Vanderbilt Avenue, New York, New York 10017). Vol. 1, $24.00; Vol. 2 and subsequent volumes, $26.00 annually. The journal is largely concerned with methodology rather than substantive forecasts.

190. Policy Sciences: An International Journal for the Policy Sciences.

Edited by Edward S. Quade, in association with Harold D. Lasswell and Yehezkel Dror, and published quarterly since Spring 1970 by American Elsevier Publications (52 Vanderbilt Avenue, New York, New York 10017). "Policy Sciences will provide a forum for the developing interest in the application of structured rationality, systematic analysis, and interdisciplinary knowledge to problems of public policy. It will include applied studies analyzing specific problem areas, theoretic studies on the methods, content, and problems of the policy sciences, and papers dealing with the policy sciences as a subject for research and teaching and as a new profession." (advt.)

191. Notes on the Future of Education. (Donnelly J. Barclay, ed.)

Published quarterly since Fall 1969 by the Educational Policy Research Center at Syracuse, 1206 Harrison Street, Syracuse, N.Y. 13210. Subscriptions are free. The research from which these brief articles are drawn is conducted under a contract with the U.S. Office of Education. Especially see I:2 (articles on the quantity of instruction and "The Learning Force"), I:3 (special issue on methodology, with articles on macro-system forecasting, the applications and limitations of the Delphi method to education, and econometric models), II:1 (three policy articles prepared for the National Reading Center, which plans to coordinate a massive attack on functional illiteracy in the U.S.), and II:2 (special issue on three improbable probabilities: that we will be older, dumber, and poorer).

192. Interchange: A Journal of Educational Studies. (Andrew Effrat, ed.)

Published quarterly since Spring 1970 (?) by the Ontario Institute for Studies in Education, 252 Bloor Street West, Toronto 5, Ontario, Canada. $5.00 per year. Especially see Vol. 1, No. 4, "Education for the Future," and Vol. 2, No. 1, "Alternatives in Education."

193. Education and Urban Society.

Published by Sage Publications, 275 So. Beverly Drive, Beverly Hills, Calif. ($8.00 annually), since November 1968. Subtitled: "An Independent Quarterly Journal of Social Research with Implications for Public Policy.

2. Major Bibliographies

194. CALDWELL, Lynton K., assisted by William B. DEVILLE and Hedvah L. SHUCHMAN (comps). Science, Technology, and Public Policy: A Selected and Annotated Bibliography (2 vols.). Prepared for the National Science Foundation by the Program in Public Policy for Science and Technology, Department of Government. Bloomington: Indiana University, revised edition, 1969. 492 pp. and 544 pp. respectively.

This massive and valuable reference work contains an estimated 5000 items, with annotations of varying length for each, and classified in 12 major sections and 46 sub-sections. "To provide a definitive treatment limited to publications in English for the years 1945-1967 would increase the size of the bibliography by at least half. The size might easily be doubled if relevant editorials and articles in news magazines and in popular journals were included." (Vol. II, p. i.)

195. WEBSTER, Maureen (Comp.), with the assistance of H.G. MEYERS, Don ADAMS, and Jerry MINER. Educational Planning and Policy: An International Bibliography. Syracuse: Educational Policy Research Center, June 1969. Working Draft, 654 pp.

Seeking to be comprehensive, international, and action-oriented, 4,927 items are included, largely written in the present decade. An elaborate categorization is provided, with indexes by author, country and region. The six major categories are titled Education and National Development, Comprehensive and Partial Planning, Financing Educational Plans, Influences on Plan Targets, Productivity and Efficiency, and Bibliographies. An updated edition of about 8000 entries will be published in Fall 1971. The major shift in focus is toward non-school education and alternative futures for learning.

196. ROJAS, Billy (Comp.). Future Studies Bibliography. Amherst, Mass.: University of Massachusetts, Program for the Study of the Future in Education, School of Education, January 1970. 107 pp., mimeo.

A listing of about 1500 items in 16 categories and 52 sub-categories. An updated version (Spring 1971) will cite about 2000 items.

197. MARIEN, Michael (Comp.). Alternative Futures for Learning: An Annotated Bibliography of Educational Trends, Forecasts, and Proposals. Syracuse: Educational Policy Research Center, March 1971. Approx. 250 pp. and $5.00.

An array of about 800 items, nearly all books and monographs, and about two-thirds annotated in varying degrees. The format is roughly the same as in this selected bibliography, except that "trends and futures" are not separated from "proposals." There is less emphasis on trends and forecasts that are unrelated to education, but a greater array of proposals, especially those that are outdated to some degree.

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An additional bibliography, Alternative Futures for Mankind: An Annotated Bibliography of Societal Trends, Forecasts, and Proposals will hopefully be published in Summer 1971. It will be of interest especially to students of the future (professional and otherwise). It will also cover about 800 items, including an overlap of about 200 items from the above bibliography. A new edition of Essential Reading for Education, selecting the most worthy items from both of these bibliographies, will probably appear in early fall 1971.

3. Futures Teaching and Research

198. ROJAS, Billy (Comp.). Future Studies Syllabus. Amherst, Mass.: University of Massachusetts, Program for the Study of the Future in Education, School of Education, revised edition, July 1970. 36 pp.

Outlines of 16 global and specialized futuristics courses presently being conducted at the college level. A 1971 edition will present outlines of about 70 courses.

199. ELDREDGE, H. Wentworth, "Education for Futurism in the United States: An On-Going Survey and Critical Analysis," Technological Forecasting and Social Change 2 (1970), pp. 133-148. Also see a briefer version, "Education in Futurism in North America," The Futurist, IV:5, December 1970, pp. 193-196.

An excellent survey of futures research and teaching. As of July 1970, approximately 90 institutions of higher learning (of which 7 were in Canada) were offering futurism or technological forecasting courses, with perhaps 100 academics involved in all of North America.

However, the focus and quality of the courses varies immensely. Generally, the intellectual roots were shallow, with very little awareness "of mankind's age-old Promethean strivings." Furthermore, "there was almost a complete lack of any implicit, much less explicit, social change theory." Various predictive techniques and teaching methods used are also covered, and the article is concluded with 17 summary propositions on the teaching of futurism.

200. MCHALE, John. Typological Survey of Futures Research in the U.S. Binghamton: State University of New York, Center for Integrative Studies, June 1970. 103 pp., mimeo.

A survey of the current state of futures research programs in the United States, conducted for the National Institute of Mental Health during the June 1969-June 1970 period, "in order to elicit a representative profile of such ongoing work, i.e. who is doing what, in which social sector, how it is being done and to which specific end(s)." (p. 1) Based on 135 usable returns (out of 356 letters sent out), McHale concludes that there are not more than 1000 full-time and less than 500 part-time workers in the field. (p. 19) Various charts and appendices list organizations, individuals, characteristics of the work, various definitions of futures research, communication needs, a discussion of the World Future Society, and informal

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change agencies that are actively creating alternative social arrangements. Although it is pointed out that this is not a directory or a social register of futurists, the study is nevertheless the best approximation for the time being.

Based on the returns (which undoubtedly characterize the mainstream), McHale concludes that the disciplines represented are heavily biased in the area of the physical sciences and engineering, which may tend "to push the overall developmental direction of the field towards 'professional respectability' and institutional propriety based on methodologies and models drawn from these areas . . . this direction if sustained may limit severely the 'look-out' and 'early-warning' capability of futures research." (p. 42) The age range concentration and sex ratio of the researchers also comes under criticism, and it is pointed out that "much of the work in this area is, indeed, tied closely to the traditional and largely unexamined premises for human action which are imbedded in our local ideological systems and value assumption. It is largely 'culture bound' in a period when one of the key aspects of ongoing change is the degree to which the more stereotyped socio-cultural premises . . . are undergoing considerable modification." (p. 43)

"One might conclude here that the potential contribution of futures research in the manifold service of the society is very great--but that present state of development, and the range of supported inquiry is not wholly conducive to the fullest use of that potential." (p. 45)

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Educational Recommendations and Proposals	Quattlebaum - 130	105 governmental and nongovernmental commissions and interest groups
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Technology and Public Policy	Caldwell - 194 Mesthene - 46	5000, annotated 70, annotated
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